



**ISLAMIC REPUBLIC OF AFGHANISTAN
NATIONAL WATER AFFAIRS REGULATION
AUTHORITY (NWARA)**



**SHOPPING FOR GOODS
REQUEST FOR QUOTATION**

PROCUREMENT (SHOPPING) OF
(WATER QUALITY MEASUREMENT TOOLS)

**ADB Grant No. and Title: 0362-AFG: Water Resources Development Investment
Program - Project 2**

PACKAGE NO. WRDIP/T2/SHP-G/02

July 2020



SHOPPING FOR GOODS

REQUEST FOR QUOTATION (RFQG)

Project Title: **ADB Grant – 0362 Afghanistan Water Resources Development Investment Program**
 Source of Funding: **Asian Development Bank**
 Contract Ref: WRDIP/T2/SHP-G/02
 To: (Supplier) _____

Date of Issue of Request: 20-July-2020

Sir/Madam:

- The Islamic Republic of Afghanistan has received a grant from the Asian Development Bank (ADB) towards the Water Resources Development Investment Program (WRDIP-T2) and intends to apply part of the fund to cover the eligible payments under the contract for procurement (Shopping) of (Water Quality Meter Measurement Tools) under this RFQ.

Item	Description	Qty
1	SV 106 Human Vibration Meter & Analyzer (6 channel ground & building Vibration Meter & Analyser) Connector SC 118 integrated connector Cable SC 56 USB cable Certificate Calibration certificate Batteries AA batteries CD Manual and Software (freeware) Software for viewing and exporting data, USB drivers for MS Windows XP, Vista, Windows 7, Windows 8 SV 207B Integrated connector for SV 39A/L and SV 50 (LEMO 5 to LEMO 4-SA 146 Carrying case for SV 106 and accessories	4
2	ProDSS Handheld 626909-10/ DSS-10 Meter 4 port Cable Assembly no depth 626901/ ProDSS Turbidity Sensor 626902/ ProDSS Conductivity and Temperature Sensor 626903/ ProDSS pH Sensor with Module 603075/ Large, soft-sided carrying case	4
	pH 7 Buffer Calibration solution (pack of 6 bottles)	6
	pH 10 Buffer Calibration solution (pack of 6 bottles)	6
	Turbidity Calibration standard 0-NTU	6
	Turbidity Calibration standard 126-NTU	6
	Conductivity calibrator 100,000µmhos/cm	6
	Provide training to the NWARA staff for the application and use of the above equipment	1
	Transportation cost for the delivery of the above goods to the final destination	1

If you, however, have been associated with the firm that prepared the design, and specifications of the contract that is subject of this procurement, you shall be disqualified.

To assist you in the preparation of your price quotation we enclose the necessary technical specifications and required quantities.



2. You may quote for any or more items under this request. Each item shall be evaluated and contract awarded separately to the firm(s) offering the lowest evaluated price for each item. **[Option: You must quote for all the items under this request. Price quotations will be evaluated for all the items together and contract awarded to the firm offering the lowest evaluated total cost of all the items].**

3. You shall submit one original of the Price Quotation with the Form of Quotation, and clearly marked "Original". In addition, you shall also submit one copy marked as "COPY". In case of any discrepancy between the Original and Copy, the original shall prevail. Your quotation in the attached format should be signed, sealed in an envelope and addressed to and delivered to the following address.

Purchaser's Address : **National Water Affair Regulation Authority (NWARA),
Block no 5, Right hand Corridor
Central Project Management Office C-PMO
Dural – Aman Road, Opposite Sanatorium
Kabul, Afghanistan**

Email: msadat@cpmo-nwara.org
Saidmoqeem5@gmail.com

Telephone : +93 78 653 8477

[Option: Your price quotation in the form attached may be submitted by facsimile or electronically to the following address:] **Not Applicable**

Purchaser's Address : _____

Telephone : _____
Fax : _____

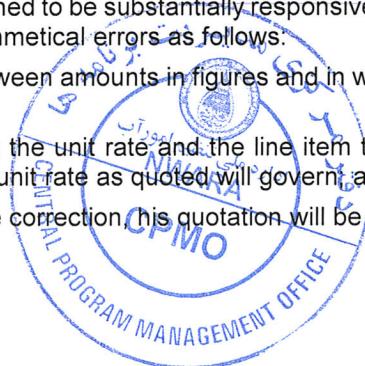
4. Your quotation in duplicate and written in **English** language should be accompanied by adequate technical documentation and catalogue(s) and other printed material or pertinent information in **English language** for each item quoted, including names and addresses of firms providing after-sales service facilities in **Islamic Republic of Afghanistan**.

5. The deadline for receipt of your quotation (s) by the Purchaser at the address indicated in Paragraph 3 is: Sunday **9-August-2020, 10:00 AM**, Kabul, Afghanistan. The sealed bids (quotations) shall be opened in the presence of all bidders.

6. You shall submit only one set of quotations for the above items. Your quotation must be typed or written in indelible ink and shall be signed by you or your authorized representative. Without a signature in your Form of Quotation, your quotation will not be considered further.

7. Your quotation(s) should be submitted as per the following instructions and in accordance with the attached form of Contract. The attached Terms and Conditions of Supply is an integral part of the Contract.

- (i) **PRICES:** The prices should be quoted for supply and delivery to **National Water Affair Regulation Authority**. Prices shall be quoted in **United States Dollar (US \$)**.
- (ii) **EVALUATION OF QUOTATIONS:** Offers determined to be substantially responsive to the technical specifications will be evaluated by comparison of their prices. An offer is not substantially responsive if it contains material deviations or reservations to the terms, conditions, and specifications in this Request for Quotation, and it will not be considered further. The Purchaser will evaluate and compare only the quotations determined to be substantially responsive. In evaluating the quotations, the Purchaser will adjust for any arithmetical errors as follows:
 - (a) Where there is a discrepancy between amounts in figures and in words, the amount in words will govern;
 - (b) Where is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern; and
 - (c) If a Supplier refuses to accept the correction, his quotation will be rejected.



(i) In addition to the quoted price, the evaluated price shall include Value Added Tax (VAT) in **Islamic Republic of Afghanistan**. In addition the current local taxes are 7 % Business Receipt Tax (BRT) in case the bidder is not registered in Afghanistan and 2 % Business Receipt Tax (BRT) if the bidder is registered in Afghanistan. The bidder should include appropriate VAT, BRT & local tax in the price.

a. For information on taxes in Afghanistan, the bidder is advised to refer to the web site of Ministry of Finance: www.mof.gov.af/tax.

(iii) **AWARD OF PURCHASE ORDER.** The award will be made to the bidder offering the lowest evaluated price and that meets the required standards of technical and financial capabilities.

The successful bidder will sign a Contract as per attached form of contract and terms and conditions of supply.

(iv) **VALIDITY OF THE OFFER:** Your quotation(s) should be valid for a period of Sixty (60) days from the deadline for receipt of quotation(s) indicated in Paragraph 5 of this Request for Quotation.

(v) If you withdraw your quotation during the validity period and/or refuse to accept the award of a contract when and if awarded, then you will be excluded from the list of suppliers for the project for two years.

8. Further information can be obtained from the below address:

Purchaser's Address: **National Water Affair Regulation Authority (NWARA),
Block no 5, Right hand Corridor
Central Project Management Office C-PMO
Dural – Aman Road, Opposite Sanatorium
Kabul, Afghanistan**

Email: msadat@cpmo-nwara.org
Saidmoqeen5@gmail.com

Telephone : +93 78 653 8477

9. A Pre-bid meeting will be organized at the location above mentioned in para 3 on 29-July-2020, 10:00 AM. The attendance in the pre-bid meeting is not mandatory its optional.

10. The bidder whose quotation has been accepted will be notified of the award of contract through the Letter of Acceptance issued by the Purchaser within 30 days from the date of submission of quotation.

11. The Purchaser intends to apply funds from the Asian Development Bank (ADB) for eligible payments under the Purchase Order resulting from this RFQ.

12. Under ADB's Anticorruption Policy bidders shall observe the highest standard of ethics during the procurement and execution of such contracts. ADB will reject a proposal for award, and will impose sanctions on parties involved, if it determines that the bidder recommended for award or any other party, has engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, the Contract. At the time of submission of your quotation, you should not be in ADB's sanctions list.

13. Please Confirm by fax/e-mail the receipt of this request and whether or not you will submit the price quotation(s).

Sincerely,



Eng. Said Moqeen Sadat
CPMO Director

FORM OF QUOTATION

To: National Water Affair Regulation Authority
Central Project Management Office (C-PMO)

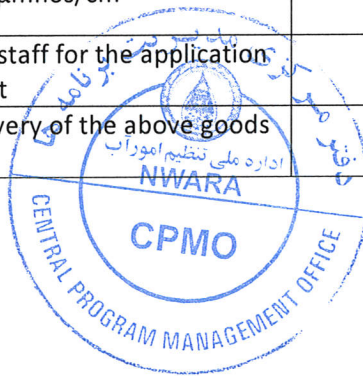
Address: National Water Affair Regulation Authority (NWARA),
Block no 5, Right hand Corridor
Central Project Management Office C-PMO
Dural – Aman Road, Opposite Sanatorium
Kabul, Afghanistan

We offer to execute the shopping of **Water Quality Measurement Tool**, Contract Ref no **WRDIP/T2/SHP-G/02** in accordance with the Conditions of Contract accompanying this Quotation for the Contract Price of _____ (amount in words and numbers) _____ US \$. We propose to complete the delivery of Goods described in the Contract within the following Delivery Time from the Date of Signing of the Contract.

Prices and Schedules for Supply

Water Quality Measurement Tool:

Item	Description	Unit Price (US \$)	Qty	Total Price (US \$)	Delivery Period
1	SV 106 Human Vibration Meter & Analyzer (6 channel ground & building Vibration Meter & Analyzer) Connector SC 118 integrated connector Cable SC 56 USB cable Certificate Calibration Certificate Batteries AA batteries CD Manual and Software (freeware) Software for viewing and exporting data, USB drivers for MS Windows XP, Vista, Windows 7, Windows 8 SV 207B Integrated connector for SV 39A/L and SV 50 (LEMO 5 to LEMO 4- SA 146 Carrying case for SV 106 and accessories		4		90 days
2	ProDSS Handheld 626909-10/ DSS-10 Meter 4 port Cable Assembly no depth 626901/ ProDSS Turbidity Sensor 626902/ ProDSS Conductivity and Temperature Sensor 626903/ ProDSS pH Sensor with Module 603075/ Large, soft-sided carrying case		4		
	pH 7 Buffer Calibration solution (pack of 6 bottles)		6		
	pH 10 Buffer Calibration solution (pack of 6 bottles)		6		
	Turbidity Calibration standard 0-NTU		6		
	Turbidity Calibration standard 126-NTU		6		
	Conductivity calibrator 100,000µmhos/cm		6		
	Provide training to the NWARA staff for the application and use of the above equipment		1		
	Transportation cost for the delivery of the above goods to the final destination		1		



This Quotation and your written acceptance will constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any Quotation you receive.

We hereby confirm that this Quotation complies with the Validity of the Offer and Warranty conditions imposed by the Request for Quotation document and the Terms and Conditions of Supply, respectively.

We have not been associated with the firm that prepared the design and specifications of the contract that is subject of this request for quotation.

We are not in the ADB sanctions list.

Authorized Signature: _____

Name and Title of Signatory _____

Name of Supplier: _____

Address : _____

Phone Number : _____

Fax Number, if any _____

Email address (optional) _____



FORM OF CONTRACT

THIS AGREEMENT number _____ made on _____, 2020, between
_____ (hereinafter called "the Purchaser") on the one part and
_____ (hereinafter called "the Supplier") on the other part.

WHEREAS the Purchaser has requested for quotation for _____ (description of goods) to be supplied by Supplier, viz. Contract _____, (hereinafter called "Contract") and has accepted the Quotation by the Supplier for the supply of goods under Contract at the sum of _____ (_____ hereinafter called "the Contract Price".

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as part of this agreement, viz:
 - a) Form of Quotation; Terms and Conditions of Supply, Technical Specifications;
 - b) Addendum (if applicable);
2. Taking into account payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby concludes an Agreement with the Purchaser to execute and complete the supply of goods under the Contract and remedy any defects therein in conformity with the provisions of the Contract.
3. The Purchaser hereby covenants to pay, in consideration of the acceptance of Contract, supply and delivery of the goods and remedying of defects therein, the Contract Price in accordance with Payment Conditions prescribed by the Contract.

IN WITNESS whereof the parties hereto have executed the Contract under the laws of _____ (country of Purchaser) on the date indicated above.

Signature and seal of the Purchaser:
For and on behalf of

Signature and seal of the Supplier:
For and on behalf of

Name of Authorized Representative

Name of Authorized Representative



TERMS AND CONDITIONS OF SUPPLY

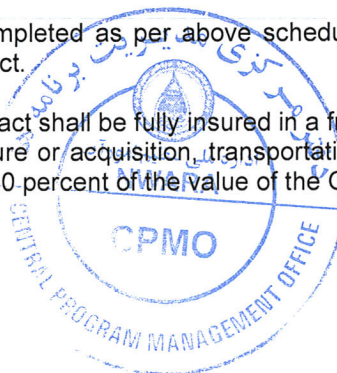
Project Name: **ADB Grant – 0362 AFG- Water Resources Development Investment Program** Purchaser:
National Water Affair Regulation Authority (N-WARA), Central Project Management Office (C-PMO).
 Package No. **WRDIP/T2/SHP-G/02**

1. Schedules for Supply

Item	Description	Qty	Incoterm Applied	Delivery Period
1	SV 106 Human Vibration Meter & Analyzer (6 channel ground & building Vibration Meter & Analyser) Connector SC 118 integrated connector Cable SC 56 USB cable Certificate Calibration certificate Batteries AA batteries CD Manual and Software (freeware) Software for viewing and exporting data, USB drivers for MS Windows XP, Vista, Windows 7, Windows 8 SV 207B Integrated connector for SV 39A/L and SV 50 (LEMO 5 to LEMO 4- SA 146 Carrying case for SV 106 and accessories	4	The incoterm applied for the shopping is DDP (Delivered Duty Paid), Refer to clause 7	90 calendar days
2	ProDSS Handheld 626909-10/ DSS-10 Meter 4 port Cable Assembly no depth 626901/ ProDSS Turbidity Sensor 626902/ ProDSS Conductivity and Temperature Sensor 626903/ ProDSS pH Sensor with Module 603075/ Large, soft-sided carrying case	4		
	pH 7 Buffer Calibration solution (pack of 6 bottles)	6		
	pH 10 Buffer Calibration solution (pack of 6 bottles)	6		
	Turbidity Calibration standard 0-NTU	6		
	Turbidity Calibration standard 126-NTU	6		
	Conductivity calibrator 100,000µmhos/cm	6		
	Provide training to the NWARA staff for the application and use of the above equipment	1		
	Transportation cost for the delivery of the above goods to the final destination	1		

Spare Parts }
Tools and Accessories }
Manuals } Specify, if applicable.
Maintenance Requirements }

2. Fixed Price: The prices indicated in the Form of Quotation are firm and fixed and not subject to any adjustment during contract performance.
3. Delivery Schedule: The delivery should be completed as per above schedule but not exceeding 90 calendar days from the date of signing of contract.
4. Insurance: The Goods supplied under the Contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The insurance shall be in an amount equal to 110 percent of the value of the Goods on "All risks" basis.



5. Applicable Law: The Contract shall be interpreted in accordance with the laws of the Islamic Republic of Afghanistan.
6. Resolution of Disputes: The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute between them under or in connection with the Contract. In the case of a dispute between the Purchaser and the Supplier, the dispute shall be settled in accordance with the provisions of the Arbitration Law and rule of the Islamic Republic of Afghanistan.
7. Delivery and Documents: Upon delivery, the Supplier shall provide the following documents to the Purchaser:
- 1) copies of the Supplier's invoice showing goods' description, quantity, unit price, and total amount;
 - 2) Manufacturer's or supplier's warranty certificate; and Certificate of origin.
 - 3) The supplier will demonstrate to the Purchaser / Consignee's satisfaction that the goods confirm to the Technical Specification.

Note:

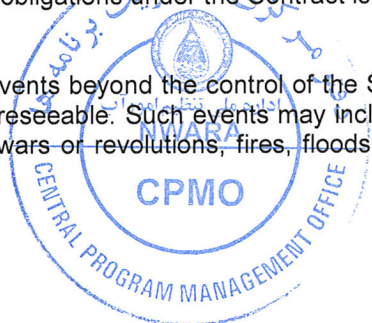
- a) The incoterm applied is **DDP (Delivered Duty Paid)**, the bidders are requested to fully educate themselves about the incoterm utilization.
- b) Delivery, Transportation, Insurance, Storage, Unloading, Installation, Testing and Commissioning at the final point of destination shall be the responsibility of the Supplier, and such cost shall be included in the Bid Price.
- c) The goods shall be delivered and drop to the below address;

**National Water Affair Regulation Authority (NWARA),
Block no 5, Right hand Corridor
Central Project Management Office C-PMO
Dural – Aman Road, Opposite Sanatorium
Kabul, Afghanistan**

If goods are coming by courier, supplier shall also provide prior to delivery, copies of documents that will enable Purchaser to receive the goods. The above documents shall be received by the Purchaser at least one week before arrival of the goods and, if not received, the Supplier shall be responsible for any consequent expenses.

8. Payment: 100% Payment will be made after the delivery and acceptance of goods by the purchaser in the form of direct transfer to the supplier's bank account.
9. Warranty: Goods offered should be covered by manufacturer's warranty for at least 24 months from the date of delivery to the Purchaser.
10. Performance Security: The supplier shall provide 10% Performance Security of the total contract price within a period of one week after the issuance of the Letter of Acceptance & shall be valid till the end of the warranty period i.e. 24 months.
11. Defects: All defects will be corrected by the Supplier without any cost to the Purchaser within 30 days from the date of notice by Purchaser. The name and address of service facility where the defects are to be corrected by the supplier within the warranty period are:
- Facility _____
- Address _____
- _____
12. Force Majeure: The supplier shall not be liable for penalties or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

For purposes of this clause, "Force Majeure" means an events beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but not restricted to, act of Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics,



quarantine restrictions, and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by Force Majeure event.

13. Required Technical Specifications: (See Attachment 1)

- (i) General Description
- (ii) Specific details and technical standards
- (iii) Performance Parameters

Supplier confirms compliance with below specifications.



Attachment 1: Air Quality & Sound Meter Measurement Tool:

MINIMUM TECHNICAL SPECIFICATIONS

1. Pro DSS: MULTIPARAMETER WATER QUALITY FIELD INSTRUMENT

The Pro DSS Handheld can withstand the harshest field conditions and handling, with maximum versatility and functionality.

- Easy-to-read color and backlit display can be used in any lighting condition
- Scratch-resistant screen is viewable with polarized glasses
- Long-life rechargeable lithium-ion battery ensures reliability in the field and minimizes waste
- Waterproof (IP-67) rubber over-molded casing
- Simple interface and a dedicated "Help" Button
- Ergonomic design for optimal handling and portability
- Optional GPS for geo-referencing data
- 3-year warranty



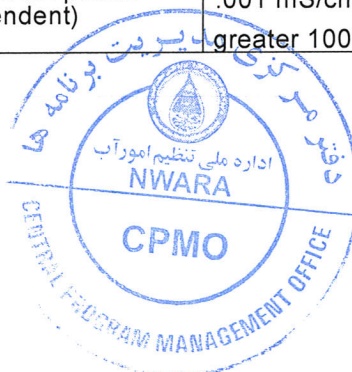
Pro DSS General Specifications

Auto Stable	User-defined auto-stable function holds stable readings on display when
Buffer Recognition	Auto buffer recognition and temperature compensation for US and NIST
Cable Connector	MS (military spec) waterproof with bayonet lock
Calibration Points	1, 2, or 3 point for pH, Turbidity, Ammonium, Nitrate, and Chloride; 1 or 2 point for DO; 1 point for ORP, Barometer, Conductivity, Specific Conductance,
Certifications	CE, RoHS, IP-67, WEEE, FCC, UN Part III, Section 38.3, Test methods for
Connectivity	Built-in micro USB; Cable for PC connection and cable for connection to USB
Data Management	KorDSS desktop software included; 100 user-defined Data ID tags and 100
Data Memory	>100000 data sets (data, date, time, user-defined info); 100 files
Dimensions	Handheld is 8.3 x 21.6 x 5.6 cm
Display	Color, LCD graphic display; 3.9 x 6.5 cm

GLP Compliance	Yes; 400 detailed GLP records can be stored and are available to view, download and print
GPS	Optional internal GPS; coordinates are stored with measurement data and site lists
Languages	English, Spanish, German, French, Italian, Norwegian, Portuguese, Japanese, Chinese (Simplified & Traditional), Korean, Thai
Logging Modes	Single Point or Continuous
Operating Temperature	0 to 50° C
Password Protection	Calibration menu can be password protected to prevent unauthorized sensor
Battery	Rechargeable lithium-ion battery pack provides ~20 hours with the handheld, 4 port cable and 4 smart sensors; battery recharge time is ~9 hours with the AC power adapter
Storage Temperature	0 to 45° C with battery installed; 0 to 60° C without battery installed
Recalibration Prompt	Provides reminder to recalibrate a ProDSS sensor after user-defined number of days
User ID	Optional user ID for data security
USB Port	Built-in micro USB On-The-Go port for PC connection, recharging/powering the ProDSS and connecting directly to a USB stick
Warranty	3-year; 2-year bulkhead, cable assembly, sensors; and ODO Extended Warranty cap; 1-year pH and pH/ORP sensor modules, ODO sensor caps, and Li-ion battery pack; 6-months ammonium, nitrate, and chloride sensor modules
Waterproof	IP-67; floats
Weight with Batteries	567 grams (1.25 lbs)

ProDSS Sensor Specifications

Sensor/Parameter	Range	Resolution	Accuracy
Temperature	-5 to 70 °C (temperature compensation range for DO mg/L measurement)	0.1 °C or 0.1 °F (user selectable)	±0.2 °C
pH	0 to 14 pH units	0.01 pH units	±0.2 pH units
ORP	-1999 to 1999 mV	0.1 mV	±20 mV
Dissolved Oxygen	0 to 500%, 0 to 50 mg/L	0.01 mg/L and 0.1%, or 0.1 mg/L and 1% (user selectable)	0 to 200%: ±1% of reading or 1% saturation, whichever is greater 200 to 500%: ±8% of reading 0 to 20 mg/L: ±0.1 mg/L or 1% of reading, whichever is greater
Barometer	375 to 825 mmHg	0.1 mmHg	±1.5 mmHg from 0 to 50 °C
Conductivity	0 to 200 mS/cm	0.001, 0.01 or 0.1 µS/cm (range dependent)	0 - 100 mS/cm: ±0.5% of reading or .001 mS/cm, whichever is greater greater 100 - 200 mS/cm:



Specific Conductance*	0 to 200 mS/cm	0.001, 0.01, 0.1 mS/cm	0 - 100 mS/cm: $\pm 0.5\%$ of reading or .001 mS/cm, whichever is greater 100 - 200 mS/cm: $\pm 1.0\%$ of reading. Userselectable reference temperature (15 to 25 °C; default 25 °C) and compensation coefficient (0 to 4%/°C; default 1.91%)
Salinity*	0 to 70 ppt	0.01 ppt	$\pm 1.0\%$ of reading or ± 0.1 ppt, whichever is greater
Total Dissolved Solids (TDS)*	0 to 100 g/L	0.001, 0.01, 0.1 g/L	Calculated from specific conductance and a user-selectable TDS multiplier (0.30 to
Resistivity*	0 to 2 Mohms	0.001, 0.01, 0.1 ohms	$\pm 0.1\%$ Full Scale
Seawater Density*	0.0 to 50.0 sigma, sigma	0.1 sigma or sigma T	-
Turbidity	0 to 4000 FNU	0.1 FNU	0 to 999 FNU: 0.3 FNU or $\pm 2\%$ of reading, whichever is greater 1000 to 4000 FNU: $\pm 5\%$ of reading
TAL-Chlorophyll	0 to 100 RFU or 0 to 400 µg/L chl	0.01 RFU or 0.01 µg/L	Linearity: $r^2 \geq 0.999$ for Rhodamine WT across full range
TAL-	0 to 100 RFU or 0 to 400 µg/L PC		
Phycocyanin	0 to 100 RFU or 0 to 400 µg/L PE		
Ammonium**	0 to 200 mg/L NH ₄ -N	0.01 mg/L	$\pm 10\%$ of reading or 2 mg/L, whichever is greater
Ammonia*	0 to 200 mg/L NH ₃ -N	0.01 mg/L	-
Chloride**	0 to 18000 mg/L Cl	0.01 mg/L	$\pm 15\%$ of reading or 5 mg/L, whichever is greater
Nitrate**	0 to 200 mg/L NO ₃ -N	0.01 mg/L	$\pm 10\%$ of reading or 2 mg/L, whichever is greater
Depth	0 to 328 feet (0 to 100 m)	0.001 m or 0.01 ft	± 0.004 m for 1, 4, and 10 m cables ± 0.04 m for cables 20 m and longer



2. SV 106 Human Vibration Meter & Analyzer

The SV 106 is a new six-channel human vibration meter and analyser. Instrument meets ISO 8041:2005 standard and it is an ideal choice for measurements according to ISO 2631- 1,2&5 and ISO 5349.

This revolutionary, pocket-size instrument enables simultaneous measurements with two triaxial accelerometers (e.g. both-hands vibration or triaxial SEAT transmission measurements are possible).

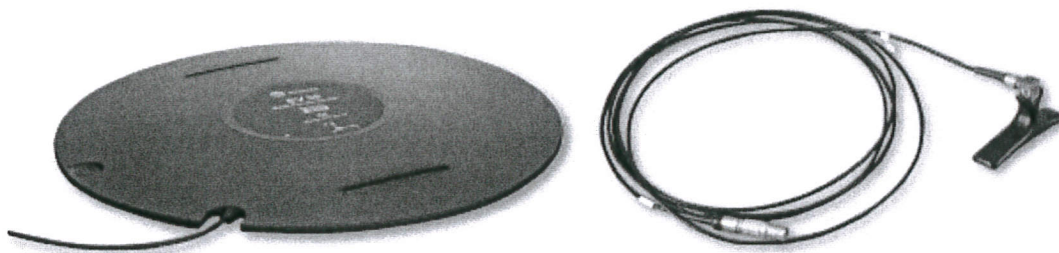
The RMS, Peak, Peak-Peak, VDV, MTVV, A(8) or Dose results with all required weighting filters for the HVM measurements including band-limiting filters are available with this instrument.

Using computational power of its digital signal processor, the SV 106 can perform real-time 1/1 or 1/3 octave analysis simultaneously to the meter mode.

Advanced time-history logging and time-domain signal recording (according to the ISO 2631-5) to built-in Micro SD flash card give almost unlimited capabilities of data storage. Results can be easily downloaded to PC using USB interface and SvanPC+_VR software. SvanPC+_VR software also provides the setup-editor function which manages the instrument's settings.

The Whole-Body vibration measurement is easier thanks to SV 38V seat-accelerometer which can be placed directly on the seat-cushion, floor or fixed to the back of the seat.

The SV 50 set with triaxial accelerometer enables Hand-Arm vibration measurements regardless of the type of evaluated tool.



FEATURES

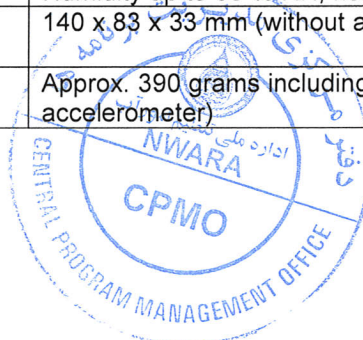
- Human Vibration measurements meeting ISO 8041:2005, ISO 2631-1,2&5 (including VDV and MTVV) and ISO 5349
- Six channels for acceleration and two channels for static force measurements
- Each channel with two profiles
- Whole-Body measurements:
 - Low-cost and low power seat accelerometer SV 38V
- Hand-Arm measurements:
 - SV 50 triaxial accelerometer with set of adapters
 - SV 105 integrated triaxial accelerometer, adapter
- and grip force sensor (under development)
- Time-domain signal recording (meeting ISO 2631-5)
- 1/1 and 1/3 octave real-time analysis
- Advanced data logger including spectral analysis
- Micro SD flash card for mass data storage
- USB 1.1 Client interface
- Integration time programmable up to 24 h
- SvanPC+_VR software for easy instrument setup and data download
- Easy in use, user friendly interface with colour display
- Pocket size (140 x 83 x 33 millimetres)
- weight only 390 grams including batteries



TECHNICAL SPECIFICATIONS

VIBRATION LEVEL METER & ANALYSER

Standards Meter Mode	ISO 8041:2005, ISO 2631-1,2&5, ISO 5349 RMS, VDV, MTVV or Max, Peak, Peak-Peak, Vector, A(8), Dose, ELV, EAV Simultaneous measurement in six channels with independent set of filters and detector constants
Filters RMS & RMQ	Wd, Wk, Wm, Wb (ISO 2631), Wh (ISO 5349) and Band Limiting filters Detectors Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB Time constants from 100 ms to 10 s
Measurement Range	Transducer dependent: 0.01 ms ⁻² RMS ÷ 50 ms ⁻² Peak (with SV 38V and Wd filter) 0.1 ms ⁻² RMS ÷ 5000 ms ⁻² Peak (with SV 50 and Wh filter)
Frequency Range	0.1 Hz ÷ 2000 Hz
Data Logger	Time-history data including meter mode results and spectra
Time-Domain Recording	Simultaneous x, y, z time-domain signal recording, sampling frequency selectable: 375 Hz, 3 kHz or 6 kHz (option)
Analyser	1/1 octave real-time analysis with centre frequencies from 0.5 Hz to 1000 Hz (option) 1/3 octave real-time analysis with centre frequencies from 0.4 Hz to 1250 Hz (option)
Accelerometer (option)	SV 38V low cost and low power triaxial accelerometer for Whole-Body measurements SV 50 set for Hand-Arm measurement (Dytran accelerometer 3023M2; adapters SA 50, SA 51, SA 52) SV 105 integrated triaxial Hand-Arm adapter with grip force sensor (under development)
function parallel to the meter mode	SC 118 integrated connector required
B A S I C D A T A	
Input	2x LEMO 5-pin: six channels Direct or IEPE type and two channels for force transducers
Dynamic Range	90 dB
Force Range	0.2 N ÷ 100 N (dedicated channels for force transducers)
Sampling Rate	6 kHz
Memory	Internal 16 MB non-volatile memory Micro SD flash card slot (supports 8 GB ÷ 16 GB cards)
Display	Colour OLED 2.4", 320 x 240 pixels Super contrast 10000 : 1
Interfaces	USB 1.1 Client, Extended I/O - AC output (1 V Peak) or Digital Input/Output (Trigger - Pulse)
Power Supply	Four AA batteries (alkaline)- operation time > 12 h (6.0 V / 1.6 Ah) Four AA rechargeable batteries (not included) operation time > 16 h (4.8 V / 2.6 Ah) USB -interface 500 mA HUB
Environmental Conditions	Temperature from -10 oC to 50 oC Humidity up to 90 % RH, non-condensed
Dimensions	140 x 83 x 33 mm (without accelerometer)
Weight	Approx. 390 grams including batteries (without accelerometer)



Note: The amount for each item shall be inclusive of VAT, BRT, Local Taxes and duties. The Firm shall offer its price based on the incoterm term DDP (Delivered Duty Paid) applied for the shopping, **refer to clause 7 Terms and conditions of supply & Technical Specification** .The final destination where the goods shall be delivered is NWARA Compound, Darul Aman Road, Kabul Afghanistan.

13. Failure to Perform: The Purchaser may cancel the Agreement if the Supplier fails to deliver the Goods, in accordance with the above terms and conditions, in spite of a 14-day notice given by the Purchaser. The Performance Security shall be forfeited by the employer.

NAME OF SUPPLIER: _____

Authorized Signature: _____

Place: _____

Date: _____

