	वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद् Council of Scientific & Industrial Research राष्ट्रीय वांतरिक्ष प्रयोगशालाएं	
	National Aerospace Laboratories	ISO 9001 : 2015 Certified Organization
INVITATION FOR BIDS/NIT		

Tender No. NAL/PUR/SED/446/20-Y

Dated: 11-Feb-2021

CSIR- National Aerospace Laboratories (NAL), Bengaluru, India is one of the premier laboratories under Council of Scientific and Industrial Research (CSIR), an autonomous body under Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

SI.No.	Description of Items	Unit	Quantity
1	Alkali Pretreatment tank with accessories	Nos	1
2	Acid Neutralization tank with accessories	Nos	1
3	Activation tank with accessories	Nos	1
4	Zinc-Nickel plating tank with accessories	Nos	1
5	Nickel strike tank with accessories	Nos	1
6	Passivation tank with accessories	Nos	1
7	Installation, Commissioning and Training at CSIR-NAL	Nos	1
	Please refer Annexure for detailed specification.		

Single / Double Bid	Single	Tender Type	Open
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation	Bid submission end date	01-Mar-2021 10.00 Hrs
Performance Security	3% of the purchase order value	Bid opening date	2-Mar-2021 11.00 Hrs

- 01. Tender Documents may be downloaded from Central Public Procurement Portal <u>https://www.etenders.gov.in</u>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <u>https://www.etenders.gov.in</u>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission'.
- 02. Tenderers can access tender documents on the website (For searching in the NIC site https://www.etenders.gov.in, kindly go to Tender Search option, select tender type and select ' Council of Scientific and Industrial Research' in organization tab and select NAL-Bengaluru-CSIR in department type Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website https://www.etenders.gov.in, as per the schedule given in the next page.
- 03. Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but not both. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. To maintain sanctity of tendering system, one Indian Agent cannot represent two different Foreign principals in one tender.
- 04. Unsolicited / conditional / unsigned tenders (Quotations) shall not be considered. Quotations received after the due date and time shall be summarily rejected.
- 05. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
- 06. The prospective bidders are requested to refer to the Standard Terms and Conditions available on NAL Internet (<u>www.nal.res.in</u>) under the icon Tender-Purchase before formulating and submitting their bids
- 07. The Director, CSIR- National Aerospace Laboratories, Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.



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🔎 purchasek@nal.res.in

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Annexure

Specifications for Plating and Pre-treatment tanks

1. Alkali treatment tank - 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 250mm X 1000mm ht (ID) Vol: 250 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Titanium heaters 1.5 KW – 2 Nos Individual control panel PID controller with sensor Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

2. Acid neutralization tank - 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 250mm X 1000mm ht (ID) Vol: 250 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

3. Activation tank - 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 250mm X 1000mm ht (ID) Vol: 250 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

4. Zn-Ni Plating Tank – 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 500mm X 1000mm ht (ID) Vol: 500 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Titanium heaters 1.5 KW – 2 Nos

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Cartridge filtration System 2500LPH, plate type (Specifications attached) placed outside the tank for filtration of the electrolyte Adequate Eductors for circulation of the electrolyte Mechanical agitation with controller upto 20 rpm for cathode rod movement Individual control panel with pH meter PID controller with sensor Rectifier 100 A, 50 V – 2 Nos (Specifications attached) Anode and Cathode bar Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

Annexure

5. Ni Plating Tank – 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 250mm X 1000mm ht (ID) Vol: 250 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Titanium heaters 1.5 KW – 2 Nos Filter pump with a flow rate of 2400 LPH placed inside the tank (Specifications attached) for filtration of the electrolyte Mechanical agitation with controller upto 20 rpm for cathode rod movement Individual control panel with pH meter PID controller with sensor Anode and Cathode bar Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

6. Passivation Tank – 1 No

MOC : 15mm Roechling PP sheet Dimension: 1000mm X 250mm X 1000mm ht (ID) Vol: 250 L Tank with in-built lip hood and drain valve 5mm PP top lid for the tank Exhaust ducting Titanium heaters 1.5 KW – 2 Nos Filter pump with a flow rate of 2400 LPH placed inside the tank (Specifications attached) for filtration of the electrolyte Individual control panel with pH meter PID controller with sensor Individual stand for the tank with wheel arrangement and PP tray Individual walkway frame

Installation and commissioning of all the tanks and related accessories at CSIR-NAL.

Annexure

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DC POWER SUPPLY Specifications of 0-50Vdc / 0-100Amps

S.No.	Parameter	Description
1	Input Supply	3 Phase 415VAC, 4 wire & Earth.
2	Output Voltage, DC	0 to 50Vdc
3	Output Current	0 to 100Amps.
4	Output Power	5.0KW
CONTROL FEATURES		
5	Protections	Protects against continuous short circuit.
-		Overload Protection - output current will be limited to set current.
		Failure of one Phase will lead to 33% reduction in Output power.
6	Display features	
-	Display Options on the front panel.	Output set Voltage will be displayed on 3½ digit Display Options on the front panel. Output set Current will be displayed on 3½ digits Ammeter.
		Display Options on the front panel. 10K Potentiometer - to set the Output voltage
		Display Options on the front panel. 10K Potentiometer - to set the output current
7	Ripple	1% (Ripple to be measured on 20MHz CRO with at least0.1uf disc and 4.7uf/63Velectrolytic capacitor connected in parallel across the shortest possible probe clips near the power supply end.)
8	Noise	2%.
9	Power supply dimensions	Width: 590mm x Depth: 655mm x Height : 430mm

Cartridge Filtration System

Parameter	Description
System Flow Rate	2500 l/hr
Filter Media	1 x 30" Polypropylene Cartridge
Pump Type	Sealless Magnetic Coupled
Motor Power	0.12kW, 415v/3ph/50hz
Materials	Polypropylene / EPDM
Connections	25mm x 25mm Socket

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Filter pump placed inside the tank

The pump will be placed in the tank with varying solution levels and depths. The cartridge used should be Reusable or Poly-Spun Disposable filter cartridges of appropriate length.

Pump: Pump material in CPVC, polypropylene, and PVDF (Kynar). Standard internal shaft should be made of 303 stainless steel covered with Teflon heat-shrink tubing or Titanium or a Hastelloy-C276-alloy.

Flow Rate: 2400 liters per hour at 60 Hz.

Pressure: 3 meters of head pressure.

Motor: Epoxy coated, rated at 1/15th hp (50 watt), single phase, 3000 RPM, TEFC, thermally protected. Electrical cord should be 3 meters long.

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Acceptance Criteria

- 1. Certification for the Material of construction.
- 2. Thickness of the PP sheet as per the specifications.
- 3. Dimensions of the tanks as per the specifications.
- 4. Leak proof tank.

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BID-SECURING DECLARATION FORM

Date: _____

Bid No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

(a)	have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during
	the period of bid validity specified in the form of Bid; or
(b)	having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
	 (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing he Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of: (insert complete name of Bidder)

Dated on _____ day of _____(insert date of signing)

Corporate Seal (where appropriate)

Note:

- 1. In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid.
- Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.