

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Council of Scientific & Industrial Research
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं
National Aerospace Laboratories



CSIR - NAL Estd. 1959
ISO 9001 : 2015
Certified Organization

INVITATION FOR BIDS/NIT

Tender No. NAL/PUR/SID/166/20-Y

Dated: 01-Sep-2020

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.

Sl.No.	Description of Items	Unit	Qty
1	Cooling chiller unit for Hydraulic power pack. Please refer Annexure for detailed specification.	No	1

Single / Double Bid	Two Bid
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation.
Performance Security	10% of the purchase order value

01. Tender Documents may be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <https://www.etenders.gov.in>. 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.

पी बी सं. 1779, एचएएल एयरपोर्ट रोड , कोडिहल्ली, बेंगलुरु - 560 017, भारत,
P B No 1779, HAL Airport Road, Kodihalli, Bengaluru - 560 017, INDIA
फोन / Phone : (का./ Off) : +91 - 80 - 2508 6040 - 45, फैक्स / FAX : +91-80-2526 9611



<http://www.nal.res.in>



purchasek@nal.res.in



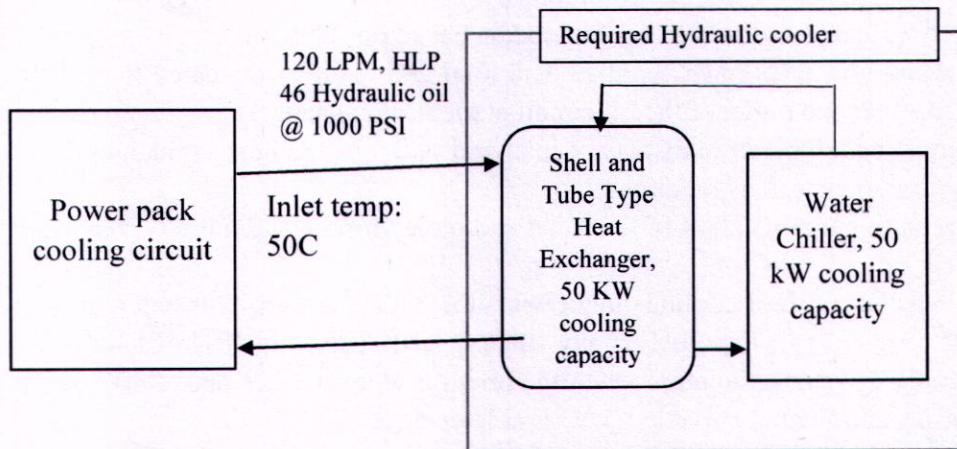
CSIR-National Aerospace Laboratories, Bengaluru-560 017, INDIA

06. The prospective bidders are requested to refer to the Standard Tender Document available on NAL Internet (www.nal.res.in) 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.

Raman Kumar
Section Officer (S&P)

Specifications for pressurized Hydraulic oil cooler

The hydraulic oil cooler with heat exchanger (Shell and tube type) is intended to be used to cool the hydraulic oil (under pressurized condition) used in a 120LPM hydraulic power pack with HLP46 grade hydraulic oil. The Block diagram of the cooling circuit required and specifications are as follows:



A. Specific requirements:

1. The Supply must consist of both water chiller, shell-and-tube heat exchanger with closed loop water circulation as a unit. It should have provision for hydraulic port for input and output. All the units should be mounted on a sturdy steel frame / casing.
2. The Cooling capacity of the chiller: 50 kW
3. Refrigerant: R134a or better non ozone depleting/ less global warming potential gas
4. Refrigeration compressor must be hermetically sealed.
5. Chilling medium: Water/ water Glycol mixture
6. Materials of Construction of wetted parts: SS304 or higher grade stainless steel
7. Cooling water tank: there must be adequate water tank to store the cooling water for further circulation with level indicator.
8. There must be adequate insulation to be provided at cooling circuit and other necessary places.
9. Type of heat exchanger: Shell and tube type heat exchanger
10. The heat exchanger must be made of high grade stainless steel material.
11. The heat exchanger must handle the hydraulic fluid of type HLP 46 at 1000 PSI, 120LPM and at a maximum temperature of 50C.
12. The cooling capacity for the heat exchanger: 50KW
13. The hydraulic connection for heat exchanger must have fitting for handling 1" BSP hydraulic hose connection.

B. General requirement

1. Must operate at 240/440V AC, 50 HZ
2. The ambient temperature at the site is 25-50C. The cooling unit must operate under such conditions.
3. Expected operation: 10 hrs/day continuously.
4. Required Softened and treated cooling media has to be supplied.
5. The cooling unit must have supplied as a total and readily connected to 1" BSP fitting for inlet and outlet of the oil circuit at the heat exchanger.
6. There must be temperature display at inlet and outlet of the heat exchanger water cooling circuit as well as oil circuit.
7. Two pressure gages (0-2000 PSI) at inlet and outlet port of hydraulic port must be provided.
8. There must be cutoff of cooling circuit when the outlet oil temp falls below 30C. It must be programmable by NAL at any value at later state from 10-45 C. and auto-on of cooling water circulation when the inlet oil temp reaches above 40C and it must be programmable/variable by NAL at later stage.
9. At any situation the oil or water temperature should not fall below 10 C.
10. There must be emergency stop.
11. Following safeguarding must be available: Cooling water level trip, Antifreeze trip, Low and High Temp trip and alarm, overload and phase change trip.
12. The refrigeration cycle must contain adequate safety system to avoid and indicate low gas pressure, anti-freeze warning, high ambient temperature, blocked condenser.

C. Selection

1. While quoting the supplier must provide the technical details against the compliance for **each item** in Point A and B individually. Any deviation or missing specifications will be considered as not meeting the specifications for final selection.

D. Acceptance conditions after final delivery:

1. NAL Will provide the site for installation, electrical supply and hydraulic inlet and outlet connection.
2. Supplier has to run the unit for at least 3 days at different hydraulic conditions experienced in the laboratory without any leak and the temperature, pressure at all the ports will be monitored.
3. Must meet all the above specifications. Any major deviations will attract rejection of the item.



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 the 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.
2. Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.