

TENDER DOCUMENT

AT
NATIONAL FERTILIZERS LIMITED
BATHINDA UNIT

Index

Annexure-A	: Instructions to Bidders.
Annexure-B	: Techno-Commercial Bid.
Technical Annexure	: 1

INSTRUCTION TO BIDDERS

NATIONAL FERTILIZERS LIMITED (NFL), BATHINDA, a Govt. of India Undertaking referred to herein as the Owner intends to enter into contract for supply of **Items as per Annexure-B** to its Plant located at BATHINDA (Punjab). You are invited to submit the Techno-commercial proposal and Price proposal for the said item through **GeM-Tendering**. Methodology for submission of proposal has been detailed here under in this document.

1. The procurement shall be made through GeM-tendering process. The offers in this process are required to be submitted electronically in place of offers in 'hard copy under sealed envelope' as being done conventionally.
2. Please upload this tender document duly signed & stamped on GeM Portal as a token of acceptance for all the term & conditions of this NIT

Contact details of concerned person at National Fertilizers Ltd., Bathinda

Sh. S.K Bagaria
Senior Manager Materials
National Fertilizers Limited
Sibian Road, Bathinda
E-mail: skbagaria@nfl.co.in

Sh. Akshat Awasthi
Asstt. Manager Materials
National Fertilizers Limited
Sibian Road, Bathinda
E-mail: akshat@nfl.co.in

Annexure-B

TECHNO-COMMERCIAL BID		
S No	Description	Additional Term & Conditions (ATC)
1	Tender/NIT Confirmation	(a) No Deviation to Additional Term & Conditions (ATC) of this Tender/NIT is allowed. (b) Offer with any condition / deviations is liable to be rejected at Sole option of NFL. (c) Please upload this tender document duly signed & stamped on GeM Portal as a token of acceptance for all the term & conditions of this NIT.
2(a)	Item Specifications	As per Technical Annexure 1
2 (b)	Interchangeability Clause	You shall confirm interchangeability of the offered motor with existing installed in our plant against Type : 1LA2 153-2NA90-7 and submit interchangeability certificate along with supply of material.
2 (c)	Documents with supply	You shall submit installation and operating manual along with material supply.
3	PRICE BASIS / FOR	Price submitted on GeM portal shall be inclusive of all taxes & costs like Transportation cost upto consignee locations, P&F, Bank charges etc as per GeM Term & Conditions. Purchase order will be issued on GeM portal to successful bidder of same value as submitted by bidders on GeM portal. So bids shall be submitted on GeM portal inclusive of all cost except insurance cost. Transit Insurance shall be arranged by NFL.
4	% of GST	Please intimate the rate of GST considered while submitting bid as mentioned at Sr No 3. The quoted price shall also include the GST as per GeM term & conditions. Bidder to certify that they are not covered under Composition Scheme under GST. If the bidder is registered under Composition Scheme it should be confirmed specifically & in this case loading of GST at applicable rates shall be done during evaluation of bids.
5	Offer Validity	Offer Validity will be 90 days from the Technical Bid Opening Date
6	Delivery period	Kindly confirm our delivery period as per GeM.

7	Payment Terms	<p>For supply: The payment shall be released to the bidders, from Bathinda Unit, within 30 days after receipt (subject to acceptance) of the supplied material at site in Bathinda Unit.</p> <p>(INSPECTION of the material shall be done after receipt of material, at NFL stores only and the same shall be final and binding)</p> <p>Tenderer/Party is requested to provide their 11 digit Core Banking Account No. & IFSC Code of their bank on their letter head as attachment, enabling NFL to arrange the transfer of due payment in their account directly.</p> <p>MSME vendor Payment through TReDS: Gol has introduced electronic platform for facilitating the financing of trade receivables of MSMEs from buyers, through financiers, which is termed as Trade Receivables Discounting System (TReDS). NFL is already registered on RXIL TReDS platform. MSME Bidders are requested to kindly register on the TReDS platform and avail the TReDS facility, if they want to. The detail of RXIL contact person is as below: Contact Name : Mr. Prajay Shukla Contact No.:8090051171 E-mail id: prajay.shukla@rxil.in Bidders upon successful delivery shall submit their invoices along with the mandated enclosures including TReDS details. Upon receipt and acceptance of the supplied material/services and receipt of invoices with the mandated enclosures, NFL shall process the invoice for payment as per details submitted on TReDS platform. Any unfinanced invoice/s of MSME bidders seeking payment from NFL directly shall be processed as per the Standard payment terms agreed in PO / contract. All financing cost for using the facility shall be borne by the MSME bidder only.</p>
8	Liquidated Damages	<p>Please confirm the acceptance of Liquidated Damages clause. GST will be applicable on LD charges.</p> <p>Material shall be supplied as per agreed/specified delivery schedule. If the material is not delivered as per specified schedule, NFL reserves the right to either</p> <p>(i) Purchase the material from OPEN MARKET at the risk and cost of the supplier OR (ii) Accept the goods at its sole discretion after imposing the PENALTY @ 0.5% (half per cent) of the Basic Price + GST as applicable of the delayed quantity for every week or part thereof, of the period of such delay from delivery schedule, subject to a maximum of 5% of the Basic Price + GST on LD as applicable OR (iii) Treat the delay as default of Purchase Order and forfeit security deposit, terminating the Purchase Order forthwith and taking, other action/s against the supplier, within the provisions of the Purchase Order.</p>
9	Firm Price	<p>Vendor to confirm that Total Landed Rate including Transportation Charges will remain firm till the complete execution of the order.</p> <p>No Revision in rates allowed except for any increase/decrease in rates of statutory levies such as GST/SGST/IGST etc. within contractual delivery period.</p> <p>Withdrawal from the quotation after its acceptance will entail forfeiture of earnest money, if any, and/or risk purchase without prejudice of our rights of legal remedies.</p>
10	PERFORMANCE	<p>Subsequent to an order being placed against your quotation, received in response to this NIT, if it is found that the materials supplied are not of the right quality or not as per our order specifications or received in damaged condition or otherwise not satisfactory owing to any reason of which NFL shall be the sole judge, we shall reject the materials, in this case NFL may cancel the contract and buy our requirement from other sources and recover the loss, if any, from you reserving our right to forfeit the security deposit.</p>

TENDER DOCUMENTS FOR NFB/PUR/SP/240001

11	Force-majeure	The delivery period indicated in the Purchase Order should be strictly adhered to and normally no extension in delivery would be granted. However, if any time during the currency of the contract the performance in whole or in part by either party of any obligation under the contract shall be prevented or delayed by way of any war, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosion, epidemics, strikes, lock outs or acts of Gods, provided notice of any such happening is given by either party to the other within 21 days from the date occurrence thereof neither party shall, by reason of such event, be entitled to terminates contract nor shall either party have any claim for damage against the other in respect of such nonperformance or delay in performance and deliveries under the contract shall be resumed as soon as practicable after the event has come to an end, ceased to exist, provided that if performance in whole or part of the contract is prevented or delayed for a period exceeding 60 days either party may at its option, terminate the contract.
12	Subletting of contract	The successful tenderer shall not assign or sublet the contract or any part thereof or assign any rights or delegate any obligation there under without prior written consent of NFL. In the event of the successful tenderer subletting or assigning the contract or any part thereof without such permission, NFL shall be entitled to cancel the PO/Contract and to purchase the goods elsewhere and successful tenderer shall be liable to NFL for any loss or damage which NFL may sustain in consequence or arising out of such purchases. Even in case subletting is permitted, NFL shall not recognize any contractual obligation with the person or party to whom subletting is permitted and shall look to the successful tenderer for satisfactory and due and proper fulfillment of the contract.
13	Jurisdiction	All actions at law or suits arising out of or in connection with this contract or the subject matter thereof will be instituted in Bathinda court in Bathinda District in the state of Punjab.
14	INSPECTION	Inspection of material shall be made at our site, which shall be final. NFL shall not carryout pre- dispatch inspection at party's works/shop unless otherwise stated in the Purchase Order.
15	MSMED Registration	(a) Please confirm whether you are covered under MSMED Act 2006 and also mention category i.e. whether you are a Micro, Medium or small enterprise. Further, also mention whether the MSE is being owned by SC/ST entrepreneurs. Documents in support of the above must accompany your quotation. (b) In case you are not registered as MSE, you shall procure at least 25% of value of contract/PO as Goods and services from MSEs and certificate to this effect will be submitted by you along with Invoice.
16	MAKE IN INDIA	Provisions of Public Procurement (Preference to Make in India), Order 2017 notified vide Order No.: P-45021/2/2017-BE-II dated 15.06.2017 of DIPP & all subsequent amendments shall be applicable in this tender. Bidders seeking benefits under preference to Make in India (Linked with Local Content) shall have to comply with the provisions specified under the Public Procurement (Preference to Make in India) Order 2017.” If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. Please submit a certificate confirming the minimum % age of local content from the OEM to claim benefits extended towards make in India policy.
17	Black-listing/ Delisting	Bidders shall give Self certification that they have not been blacklisted by any Government Department/Public Sector Undertaking/Co-Operative Unit in the last Two Years. Offers of such blacklisted bidders shall not be considered.
18	Laws Governing Purchase Order	The purchase order shall be governed by the Laws or Union of India for the time being in force. The seller shall comply with all Central/State Laws as well as the rules, regulations, by-laws as may be in force, from time to time. Any failure on their count on the part of the seller and the consequence thereof shall be solely on account of the seller. Liability, if any, under this head shall be solely borne and paid for by the seller.

TENDER DOCUMENTS FOR NFB/PUR/SP/240001

19	INDEMNITY	The supplier shall indemnify and legally protect NFL and/or its employees against all claims, actions, proceedings, demands, costs, expenses, causes of action or suits arising out of incidental to and/or consequent upon the services provided by the seller under the contract or due to the failure of the seller in performance of his/its obligations under the contract. If the NFL is called upon to make any payments as aforesaid due to any act or omission or failing of the seller, NFL shall be entitled to recover the said amount from any security or other guarantee available with the NFL under the contract.
20	SECRECY	Any information delivered or otherwise communicated by NFL to supplier in connection with the contract shall be regarded as and confidential and shall not without the written consent of NFL be published or disclosed to any third party or made use or by the supplier except for the purpose of implementing the contract.
21	TDS	Deduction shall be made from the payment as per existing GOI rules.
22	Relationship	A) None of NFL Employee is related to Owner / Director of Firm. B) None of Ex-Employee of NFL is employed with vendor Firm (In case of relatives/ex-employees concerned with NFL, please furnish their complete details such as Name, Department, E.No. etc.)
23	Signed copy of All Annexures of Tender documents	Bidders shall upload copy of all Annexures duly signed and stamped as a token of acceptance of all T&C of our NIT. Bidders may ensure that tender documents are signed by appropriate authority of the company. Withdrawal of offer / non acceptance of orders placed based on offers submitted by bidders on their letter head; will not be allowed on the grounds that offer was not signed by authorized person.
24	Clear Understanding	When a tenderer submits his tender in response to this tender document, he will be deemed to have understood fully all requirements, terms and conditions. No request will be entertained on a pretext that the tenderer did not have a clear idea on any particular point and/or a clause of the tender.
25	Name & Contact of dealing person	Please provide Name & Contact (email & phone) of dealing person Bidders may ensure that tender documents are signed by appropriate authority of the company. Withdrawal of offer / non acceptance of orders placed based on offers submitted by bidders on their letter head; will not be allowed on the grounds that offer was not signed by authorized person.
26	CONTACT DETAILS of company	You shall attach sheet mentioning your e-mail ID, telephone / mobile no. etc. along with complete name & address details of your Firm/Co., for clarifications / placement of order.
27	Arbitration	Detailed below
28	General Terms and conditions	All other Terms and conditions shall be as per GeM GTC.

<p>29</p>	<p>Land Border sharing clause</p>	<p>(i) Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.</p> <p>(ii) “Bidder” (including the term ‘tenderer’, ‘consultant’ or ‘service provider’ in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.</p> <p>(iii) “Bidder from a country which shares a land border with India” for the purpose of this Order means: -</p> <p>a. An entity incorporated, established or registered in such a country; or</p> <p>b. A subsidiary of an entity incorporated, established or registered in such a country; or</p> <p>c. An entity substantially controlled through entities incorporated, established or registered in such a country; or</p> <p>d. An entity whose beneficial owner is situated in such a country; or</p> <p>e. An Indian (or other) agent of such an entity; or</p> <p>f. A natural person who is a citizen of such a country; or</p> <p>g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.</p> <p>(iv) The beneficial owner for the purpose of (iii) above will be as under:</p> <p>1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.</p> <p>Explanation—</p> <p>a. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five per cent, of shares or capital or profits of the company;</p> <p>b. “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;</p> <p>2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;</p> <p>3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;</p> <p>4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;</p> <p>5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.</p> <p>(iv) An Agent is a person employed to do any act for another, or to represent another in dealings with third person.</p> <p>(v) [To be inserted in tenders for Works contracts, including Turnkey contracts] The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order).</p> <p>“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered.”</p>
<p>This tender shall be treated as single part bid as per procedures of NFL.</p>		

- **ARBITRATION(for other parties):**

“Any dispute or difference whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be resolved amicably through negotiations by the parties. A “Notice of dispute” shall be given by the party seeking resolution of a dispute to other party. If the dispute is not resolved within thirty (30) days from the notice, the dispute shall be referred to arbitration as per the procedure mentioned herein below:

A written notice shall be given by the contractor invoking arbitration to National Fertilizers Limited through Unit Head.

Where the claim including determination of interest, if any, being claimed up to the date of commencement of arbitration does not exceed Rs. Five crore, the reference shall be made to a sole arbitrator. The parties shall mutually agree on the name of sole arbitrator. In case of disagreement upon the name of the sole arbitrator, the appointment of Sole arbitrator shall be done in accordance with the provisions of Arbitration & Conciliation Act, 1996.

Where the claim including determination of interest, if any, being claimed, up to the date of commencement of arbitration exceeds Rs. Five Crore, the reference shall be made to arbitral tribunal consisting of three arbitrators. Each party shall nominate one arbitrator each within 30 days from the date of receipt of notice of invocation of arbitration and two nominated arbitrators shall appoint the presiding arbitrator within 30 days thereafter. IF a party to the dispute refuses or neglects to nominate an arbitrator on its behalf within the period specified, or the two arbitrators fails to nominate Presiding arbitrator, appointment of Arbitrator(s) shall be done in accordance with the provisions of Arbitration & Conciliation Act, 1996.

The Arbitration proceeding shall be governed by the Arbitration & Conciliation Act, 199 and any further statutory modifications or re-enactment thereof and the rules made thereunder.

It is agreed by and between the parties that in case a reference is made to the Arbitrator for the purpose of resolving the disputes / differences arising out of the contract by and between the parties hereto, the Arbitrator shall not award interest on the awarded amount more than the rate SBI PLR/Base rate applicable to NFL on the date of award of contract.

The seat and venue of arbitration shall be Bathinda only.

The cost of the proceedings shall be equally borne by the parties, unless otherwise directed by the arbitral tribunal. The decision of the arbitral tribunal shall be final and binding on all parties.

- ARBITRATION(for Foreign parties):“Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination shall be referred to and finally resolved by arbitration administered b Singapore International Arbitration Centre (SIAC) in accordance with the Arbitration Rules of the Singapore International Arbitration Centre (SIAC Rules) for the time being in force, which rules are deemed to be incorporated by reference in this clause.

The seat and venue of the arbitration shall be at New Delhi, India.

The language of arbitration shall be English.

This Contract / LOI/ NIT shall be governed by and construed in accordance with the Laws of India.

- For CPSEs and Government Department:

All commercial disputes between CPSEs inter se and CPSEs and Govt. Department(s)/Organization(s) shall be settled through Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) as provided vide DPE OM N0.4(1)/2013-DPE(GM)/FTS-1835 dated

22-05-2018 and DPE-GM-05/0003/2019-FTS-10937 dated 20-02-2020.

“In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and also Government Department/ Organizations (Other than those related to taxation), such dispute or difference shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM N0.4(1)/2013-DPE(GM)/FTS-1835 dated 22-08-2018”.

MAKE IN INDIA:

Provisions of Public Procurement (Preference to Make in India), Order 2017 notified vide Order No.: P-45021/2/2017-BE-II dated 15.06.2017 of DIPP shall be applicable in this tender. Bidders seeking benefits under preference to Make in India (Linked with Local Content) shall have to

comply with the provisions specified under the Public Procurement (Preference to Make in India) Order 2017.”

To encourage ‘Make in India’ and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India, issued Public Procurement (Preference to Make in India), Order 20171. The order is issued pursuant to Rule 153 (iii) of GFR, 2017. The Order is applicable on the procurement of Goods, Works and Services. For the purpose of this Order:-

- a) ‘L1’ means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.
- b) ‘Margin of purchase preference’ means the maximum extent to which the price quoted by a “Class-I local supplier” may be above the L1 for the purpose of purchase preference. It has been fixed as 20 (twenty) percent.
- c) ‘Nodal Ministry’ means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.
- d) ‘Procuring entity’ means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes

Government companies as defined in the Companies Act.

- e) ‘Works’ means all works as per Rule 130 of GFR- 2017, and will also include ‘turnkey works’.
- i) Eligibility of ‘Class-I local supplier’/ ‘Class-II local supplier’/ ‘Non-local suppliers’ for different types of procurement.
 - a) In procurement of all goods, services or works in respect of which the Nodal Ministry/Department has communicated that there is sufficient local capacity and local competition, only ‘Class-I local supplier’, shall be eligible to bid irrespective of purchase value.
 - b) Only ‘Class-I local supplier’ and ‘Class-II local supplier’, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, ‘Non-local suppliers’ shall also be eligible to bid along with ‘Class-I local suppliers’ and ‘Class-II local suppliers’. In procurement of all goods, services or works, not covered by sub-para (i)(a) above, and with estimated value of purchases less than INR 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority as designated by Department of Expenditure.
 - c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

ii) Purchase Preference

- a) Subject to the provisions of the Order and to any specific instructions issued by the Nodal Ministry or in pursuance of the Order, purchase preference shall be given to ‘Class-I local supplier’ in procurements

undertaken by procuring entities in the manner specified here under.

b) In the procurements of goods or works, which are covered by para (i)(b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

1. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.

2. If L1 bid is not a 'Class-I local supplier', 50 (fifty) percent of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50 (fifty) percent quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

c) In the procurements of goods or works, which are covered by para (i)(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

1. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.

2. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.

3. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

4. "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

iii) Applicability in tenders where contract is to be awarded to multiple bidders

In tenders where contract is awarded to multiple bidders subject to matching of L1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the contract, should be all and only 'Class I Local suppliers'.

b) In other cases, 'Class II local suppliers' and 'Non local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of the Order.

c) If 'Class I Local suppliers' qualify for award of contract for at least 50 (fifty) percent of the tendered quantity in any tender, the contract may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of contract for at least 50 (fifty) percent of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers'/'Non local suppliers' provided that their quoted rate falls within 20 (twenty) percent margin of purchase preference of the highest quoted bidder considered for award of contract so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of contract for at least 50 (fifty) percent of the tendered quantity.

d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20 (twenty) percent margin of purchase preference, subject to its meeting the prescribed criteria for award of contract as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20 (twenty) percent margin of purchase preference, and so on.

e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of contract amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub- paras above.

iv) Exemption of small purchases: Notwithstanding anything contained in paragraph (i), procurements where the estimated value to be procured is less than INR 5 lakhs shall be exempt from the Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.

v) Minimum local content: The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50 (fifty) percent. For 'Class-II local supplier', the 'local content' requirement is minimum 20 (twenty) percent. Nodal Ministry/ Department may prescribe only a higher percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'/'Class-II local supplier'. For the items, for which Nodal Ministry/ Department has not prescribed higher minimum local content notification under the Order, it shall be 50 (fifty) percent and 20 (twenty) percent for 'Class-I local supplier'/'Class-II local supplier' respectively.

vi) Requirement for specification in advance: The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.

vii) Government E-marketplace: In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.

viii) Verification of local content:

a) The 'Class-I local supplier'/'Class-II local supplier' at the time of tender, bidding or solicitation shall

be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/ 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

b) In cases of procurement for a value in excess of INR 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

c) Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.

d) Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.

e) Nodal Ministries and procuring entities may prescribe fees for such complaints.

f) False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

g) A supplier who has been debarred by any procuring entity for violation of the Order shall not be eligible for preference under the Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph (h) below.

h) The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:

1. The fact and duration of debarment for violation of the Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;

2. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);

3. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

ix) Specifications in Tenders and other procurement solicitations:

a) Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.

b) Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier'/ 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring

quality or creditworthiness of the supplier.

c) Procuring entities shall review all existing eligibility norms and conditions with reference to sub-paragraphs (viii) (a) and (b) above.

d) Reciprocity Clause

1. When a Nodal Ministry/Department identifies that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, due to restrictive tender conditions which have direct or indirect effect of barring Indian companies such as registration in the procuring country, execution of projects of specific value in the procuring country etc., it shall provide such details to all its procuring entities including CMDs/CEOs of PSEs/PSUs, State Governments and other procurement agencies under their administrative control and GeM for appropriate reciprocal action.

2. Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/ Department, except for the list of items published by the Ministry/ Department permitting their participation.

3. The stipulation in (2) above shall be part of all tenders invited by the Central Government procuring entities stated in (1) above. All purchases on GeM shall also necessarily have the above provisions for items identified by nodal Ministry/ Department.

4. State Governments should be encouraged to incorporate similar provisions in their respective tenders.

5. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.

e) Specifying foreign certifications/ unreasonable technical specifications/ brands/ models in the bid document is restrictive and discriminatory practice against local suppliers. If foreign certification is required to be stipulated because of non-availability of Indian Standards and/or for any other reason, the same shall be done only after written approval of Secretary of the Department concerned or any other Authority having been designated such power by the Secretary of the Department concerned.

f) "All administrative Ministries/Departments whose procurement exceeds INR 1000 Crore per annum shall notify/ update their procurement projections every year, including those of the PSEs/PSUs, for the next 5 years on their respective website."

x) Action for non-compliance of the Provisions of the Order: In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.

xi) Assessment of supply base by Nodal Ministries: The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing the higher minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.

xii) Increase in minimum local content: The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.

xiii) Manufacture under license/ technology collaboration agreements with phased indigenization

a) While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

b) In procurement of all goods, services or works in respect of which there is substantial quantity of public procurement and for which the nodal ministry has not notified that there is sufficient local capacity and local competition, the concerned nodal ministry shall notify an upper threshold value of procurement beyond which foreign companies shall enter into a joint venture with an Indian company to participate in the tender. Procuring entities, while procuring such items beyond the notified threshold value, shall prescribe in their respective tenders that foreign companies may enter into a joint venture with an Indian company to participate in the tender. The procuring Ministries/Departments shall also make special provisions for exempting such joint ventures from meeting the stipulated minimum local content requirement, which shall be increased in a phased manner.

xiv) Powers to grant exemption and to reduce minimum local content: The administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,

1. reduce the minimum local content below the prescribed level; or
2. reduce the margin of purchase preference below 20 (twenty) percent; or
3. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

xv) Directions to Government companies: In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.

xvi) Standing Committee. A standing committee is hereby constituted with the following membership:

Secretary, Department for Promotion of Industry and Internal Trade- Chairman
Secretary, Commerce-Member
Secretary, Ministry of Electronics and Information Technology-Member
Joint Secretary (Public Procurement), Department of Expenditure-Member
Joint Secretary (DPIIT)-Member- Convenor
The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

xvii) Removal of difficulties: Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of the Order.

xviii) Ministries having existing policies: Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1st January 2015, such policies will prevail over the provisions of the Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.

xix) Transitional provision: The Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.

(Rule 153 of GFR 2017)

(Note: 1Latest revision to the Order notified vide OM No. P-45021/2/2017-PP (BE-II) issued by DPIIT, dated 16.09.2020)

[Buyer is advised to refer latest guidelines, if any, issued by the Ministry/ Corporate Office].

Signature _____

Name _____

Name of Company / Firm _____

Technical Annexure 1

Sr	Item Cd	N.C.	Item Desc.	UM	Qty Reqd
1	2420261	Y	Siemens make, 7.5KW, 415V+/-10%, TEFC, DOL starting, Delta connection, Frequency 50Hz+/-5%, Frame Size: 160M, Type: 1LA2 153-2NA90-7 (Or equivalent type: 1LE7503-1DA29-0AA5-Z+M1Y), RPM: 2952, Amp: 13A, Bearing: DE & NDE side-6309ZC3, Insulation class F, Temperature rise limit upto Class B, Design ambient temperature: 50DCent., Duty S1, Efficiency Class: IE3, greasing points on both DE & NDE side, paint shade: 631 as per IS5 with 90 microns paint thickness, non-PSTB Terminal box on left hand side when seen from NDE side, double earthing points, type of drive belt/coupling: Direct-Flexible PIN Bush coupling and all other design and operating features as per IEC 60034-1 with latest amendment. Other operating characteristics, dimensional details and design parameters as per attached datasheet.	NO	1.000



TECHNICAL PARTICULARS
INDUCTION MOTOR

PNMM/PC135_13
6/P-II/Sec-5.4

P
REV

SHEET 1 OF 1

DATA SHEET



CLIENT: M/s N F L BHATINDA		PROJECT: GTG & HRSG PROJECT	
ISSUED FOR:	PROPOSAL <input type="checkbox"/>	ENQUIRY <input checked="" type="checkbox"/>	ORDER <input type="checkbox"/> FINAL <input type="checkbox"/>
GENERAL			
Item No.	11-M-201, 11-M-202		
Quantity	2		
Description	Scanner Cooling Fan		
Code No.	PH0681 / PH0691		
Ref. Standard	IS 12615:2011 / IEC 60034-1		
Make	Siemens		
Maker's Type	TEFC		
ELECTRICAL DATA			
Rated Output	7.5kW		
Rated Voltage	415V		
No. of Starts - Hot / Cold	2H/0C		
Torque - Starting / Pull Up / Pull Out	250% / 210% / 320% of the rated torque.		
Starting Time at min. V Start (Hot / Cold)	27 seconds, at 80% of Rated Voltage.		
Safe Stall Time at $V_r / 1.1V_r$	LRWT (Hot & Cold) at $V_r = 30s$ & $44s$ & LRWT (Hot & Cold) at $1.1V_r = 25s$ & $36s$		
Stator Time Constant	15 min. heating & 30 min. cooling		
Temp. Rise at Full Load - Wdg. / Hot Air / Brg.	Limited to Class B		
TEMP. RISE OF STATOR / ROTOR AFTER	3 Starts From Cold	Limited to Class B	
	2 Starts From Hot	Limited to Class B	
Current at FL / 0.85 FL	13A / 11A		
Efficiency at FL / 0.85 FL	90.1 / 90.1		
Speed at FL / 0.85 FL	2952 / 2950		
Power Factor at FL / 0.85 FL / Start	0.87 / 0.85 / 0.2 (Indicative)		
Push Pull Voltage withstand Capacity	Not Applicable		
Max. V dip for 1 sec. / 30 sec. / 60 sec.	Not Applicable		
Losses - Fixed / Copper / Total	Can not be furnished.		
Space Heater Rating	NA. But stator coil heating by 24VAC (Any of the two motor winding) is ok.		
Suitable for Low Voltage Heating	Yes, But stator coil heating by 24VAC (Any of the two motor winding) is ok.		
C.T. Ratio & Accuracy Class	Not applicable.		
C.T. V_k & I_{mag} at $V_k / 2$	Not applicable.		
Heating Time Constant	15 min. heating		
Cooling Time Constant	30 min. cooling		
MECHANICAL DATA			
Frame Size / Ref. Dimensional Drg.	160M		
Weight - Stator / Rotor / Total	114Kg / 36kg / 150Kg		
Heaviest Weight to be Lifted	NA		
Rotor GD ² in Kgm ²	0.33		
REACTION AT SUPPORTS FOR	S/C Condition	Please Find the Dynamic load data attached in separate Excel sheet.	
	Starting Condition	Please Find the Dynamic load data attached in separate Excel sheet.	
	Running Condition	Please Find the Dynamic load data attached in separate Excel sheet.	
	Push Pull Condition	Please Find the Dynamic load data attached in separate Excel sheet.	
Max. Vibration Limit	As per IS: 12075		
Max. Noise Level	85dB (A) at 1 meter.		
Suitable for Outdoor Use	Yes	No	
Suitable for Bi-directional Rotation	Yes	No	
Material of Insulation	As per Siemens Standard, Class F insulation.		
Treatment of Insulation	As per Siemens Standard, For further Details cannot be furnished.		
Winding Coils Replaceable at Site	NA		
Type & Material of Fan	Cast Iron		
Material & Thickness of Cooler Tube	NA		
Cooling Water Required in M ³ / hr	NA		
Lubrication Type	K3N Lithium Soap Grease.		
Lubricant Specn.	Exxon mobil Unires N3		
Interval of Lubrication	As per O&M manual.		
BEARING NOS. & TYPE	DE	6309ZC3	
	NDE	6309ZC3	
	GUIDE	NA	
On Line Lubrication	Yes		
Type & Rating of Main Cable Box	Non Phase Segregated & Fault capacity 50KA for 0.25s subject to suitable back up switchgear protection.		
No. of Cable Glands in Control Cable Box	Cable glands not in Siemens Scope of Supply.		

14

1.1. TECHNICAL DATA SHEET

To complete the proposal, the bidder must completely fill up the below mentioned entire Technical Particulars schedule & other lists and the same shall be properly signed by authorised representatives of the bidder as verification of the data submitted.

SR. NO.	PROJECT DETAIL	
1	CUSTOMER	NFL, BATHINDA.
2	PROJECT	GTG & HRSG PROJECT
3	EPC CONTRACTOR	M/S THERMAX LTD., POWER DIVISION

Sr.	Parameter	Unit	Value
A	General Data		
1	Manufacturer		Siemens Ltd.
2	Service/Installation		Outdoor
3	Application		SC Fan
4	Reference standard		IS 12615:2011 / IEC 60034-1
5	Degree of protection for enclosure	IP	IP 55
6	Type of motor		TEFC
7	Duty cycle and designation		S1
8	Rated voltage and variation range	V, %.	415V , +/- 10%
9	Rated frequency and variation range	Hz.	50Hz , +/- 5%
10	Energy Efficiency Class		IE3
11	Method of starting		DOL Only
12	Winding Connection		Delta
13	Class of insulation / Temp. rise		F / B
14	Temp. rise above ambient		70K , by resistance Method
15	Painting		
a.	Type		Epoxy Paint
b.	Paint shade		631 as per IS:5
c.	Paint Thickness		90 microns

Unrestricted Format No.:CGN-E-F-03, Sht 1, Rev 1 dt. 02/Mar/2001

e/n



POWER DIVISION

THERMAX LIMITED

Project	Document Title	Doc. No.	Rev.	Sheet
NFL, BATHINDA, GTG & HRSG PROJECT	Technical Specification for LT motors	PNMM/PC135...13 6/E-601/ P-II/Sec.- 5.4	0	2

16	Motor Terminal Box		
a.	Type		Non PSTB
b.	Fault withstand current and time		50kA for 0.25 seconds subject to suitable back up switchgear protection.
17	Impulse withstand	kV	NA
18	Power frequency withstand	kV	NA

B			
Sr.	Parameter	Rating, kW (Data to be filled up for each motor)	
		Unit	Value
1	Quantity, Nos.		2
2	Tag Nos.		11-M-201, 11-M-202
3	Type of drive Belt / Direct coupled		Direct -- Flexible Pin-Bush Coupling
4	Rated Speed. RPM	RPM	2952
5	Rated continuous output at 50 Deg. C	kW	7.5
6	Full load current, A	A	13
7	No load current, A	A	Shall be as per RTC of motor
8	Frame Size		160M
9	Stator winding		
a.	Connection		Delta
b.	Resistance per phase		Shall be as per RTC of motor
c.	Resistance between terminal		Shall be as per RTC of motor
10	Rated power factor		
a.	At no load		Shall be as per RTC of motor
b.	At 100 % load		0.87
c.	At 75 % load		0.84
d.	At 50 % load		0.76

Unrestricted

3/11

2

POWER DIVISION

THERMAX LIMITED

Project	Document Title	Doc. No.	Rev.	Sheet
NFL, BATHINDA. GTG & HRSG PROJECT	Technical Specification for LT motors	PNMM/PC 135...13 6/E-601/ P-II/Sec.- 5.4	0	3

11	Efficiency at rated voltage and frequency		
a.	100 % load	%	90.1
b.	75 % load	%	90.1
c.	50 % load	%	90.1
d.	25 % load	%	87.0
12	Method of starting		Only DOL
13	Starting current		
a.	Starting current at rated voltage, %	%	750 % of Rated Current
b.	At 80 % of rated voltage, %	%	560%
14	Starting torque, %		250%
15	Time to attain full speed		
a.	With load		14 seconds at 100% Voltage
b.	Without load		Less than 1 seconds
16	Locked rotor withstand time		
a.	From cold 80%/100%/110 %	seconds	69 / 44 / 36
b.	From hot 80%/100%/110 %	seconds	47 / 30 / 25
17	Method of cooling		IC411
18	No. of consecutive starts / Hr		
a	Cold		4
b	Hot		3
c	Equally Spreads per hour		3
19	Slip		
a.	At 100 % load	RPM	48
b.	At 75 % load	RPM	36
20	Bearing		
a.	Type – DE		6309Z C3
b.	Type – NDE		6309Z C3

Unrestricted

4/11



POWER DIVISION

THERMAX LIMITED

Project	Document Title	Doc. No.	Rev.	Sheet
NFL, BATHINDA. GTG & HRSG PROJECT	Technical Specification for LT motors	PNMM/PC135...13 6/E-601/ P-II/Sec.- 5.4	0	4

21	Recommended Lubricant		Unirex N3 of Exxon Mobil.
22	Space heaters		
a.	Voltage	V	NA
b.	Power	W	NA
23	Type of RTDs/wire		NA
24	Details of Thermistors		NA
a.	Type of Thermistors		-
b.	No. of Thermistors per phase		-
25	No. of earthing pads provided & suitable for earthing conductor size		
a.	On motor body		2 x M12
b.	On main terminal box		2 x M6
d.	On space heater TB		NA
e.	On RTD TB		NA
f.	On Thermistors TB		NA
26	Type of mounting		IMB3 -Foot Mounted
27	Overall dimensions	Packing Dimension	
a.	Length	mm	825
b.	Breadth	mm	480
c.	Height	mm	600
28	Weight		
a.	Stator	kg	114 approx.
b.	Rotor	kg	36 approx.
c.	Total		150 approx.
29	Moment of inertia	Kgf. m Sq.	0.0825
30	Dynamic load on foundation		Given in Separate Excel Sheet.
31	Noise level at 1.5 m		85dB
32	Vibration		As per IS:12075

Unrestricted

5/11

10

POWER DIVISION

THERMAX LIMITED

Project	Document Title	Doc. No.	Rev.	Sheet
NFL, BATHINDA, GTG & HRSG PROJECT	Technical Specification for LT motors	PNMM/PC135...13 6/E-601/ P-II/Sec.- 5.4	0	5

a.	Shaft		
b.	Body		
33	Cable size		
a.	Power Cable size		2Rx 3.5Cx 25Sq.mm
b.	Space heater cable size		NA
c.	RTD / BTD cable size		NA
d.	Thermistor cable size		NA
34	Vibration sensor		NA

TENDER DOCUMENTS FOR NFB/PUR/SP/240001



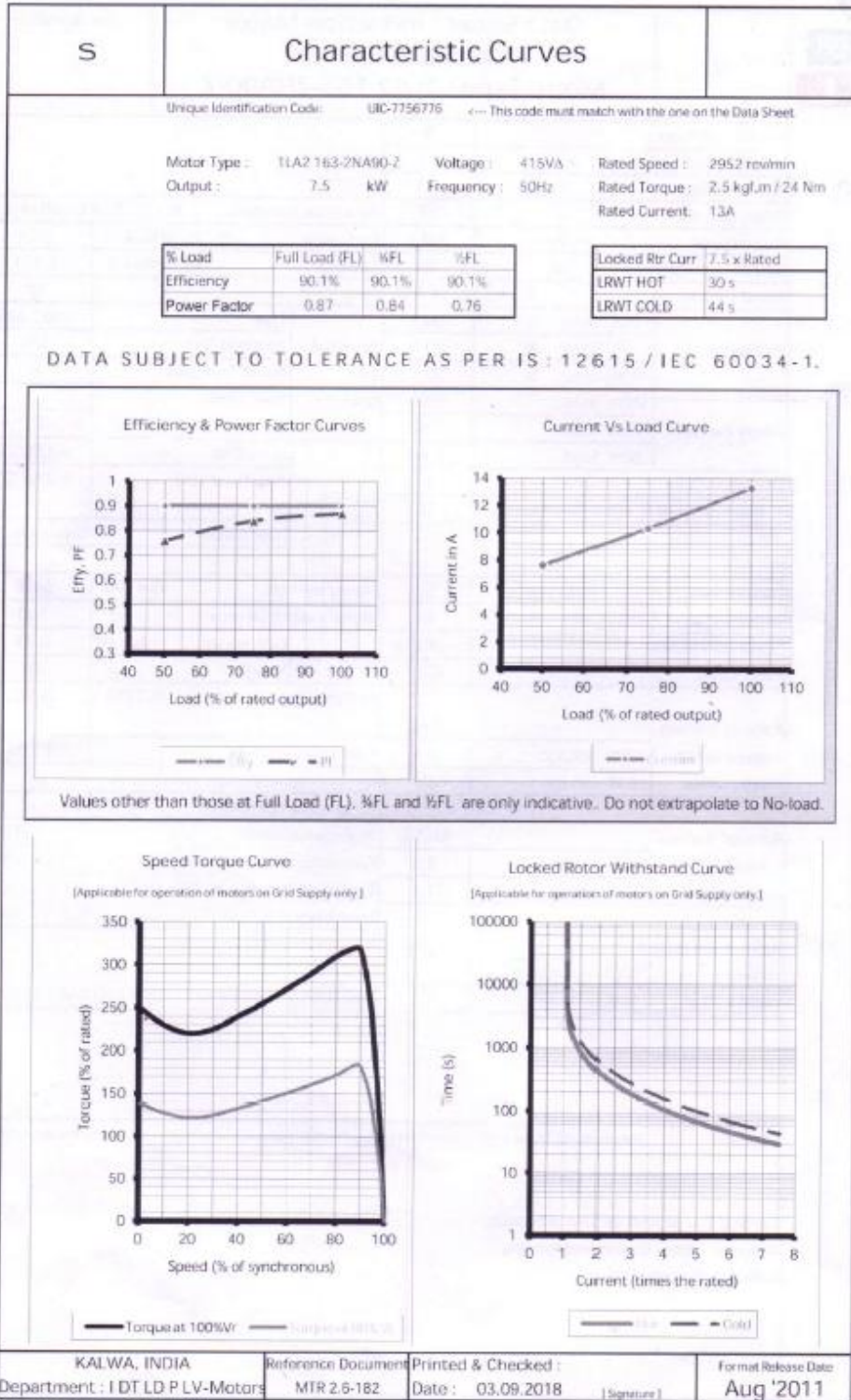
S		Data Sheet : Induction Motor Champion Series Motor Type : 1LA2 163-2NA90-Z			Line Operation		
		Number of Phases		3			
Rated Output		kW		7.5			
Rated Voltage		V		415			
Rated Current		A		13			
Rated Speed		rev/min		2952			
Rated Frequency		Hz		50			
Rated Torque		2.5 kgf.m / 24 Nm		Duty			
Efficiency :		100% load %		90.1			
		75% load %		90.1			
		50% load %		90.1			
Power Factor :		100% load		0.87			
		75% load		0.84			
		50% load		0.76			
Insulation Class		F		Terminal Type			
T. Rise restricted to class (Res.method)		B		Terminal Size			
				No. of Terminals			
				Max. Cable Section			
				mm ²			
				2R 3% C 25mm ²			
				Drive End			
				6309Z C3			
				Non-Drive End			
				6309Z C3			
				Lubrication			
				Re-Greasable			
Locked rotor withstand time		Hot (s)		30			
		Cold (s)		44			
Stator connection		DELTA		Lifting eyebolt:			
Rotor Class		KL16		IS:4190			
				M12			
				Motor weight (approx.)			
				kg			
				150			
				GD ² (4x M)			
				kgf.m ²			
				0.33			
				Weight			
				-kg			
				36			
				Construction:			
				IS:2253			
				IMB3			
Ratio of starting current to the rated current		I _s /I _r		100% voltage			
				7.5			
				80% voltage			
				5.6			
Ratio of starting torque to the rated torque		M _s /M _r		Ambient Temperature			
		100% voltage		°C			
		2.5		50			
		80% voltage		Voltage Variation			
		1.4		±10%			
				Frequency variation			
				±5%			
				Combined Voltage & Frequency variation			
				10%			
Ratio of Breakdown torque to the rated torque		M _b /M _r		# - For directly coupled drives			
		100% voltage		Data subject to tolerance as per IS:12615 / IEC 60034-1.			
		3.2					
		80% voltage					
		1.9					
Remarks : Unique Identification Code: UIC-7756726 ← This code must match with the one on Characteristic Curves Sheet.							
Terminal Box on RHS as viewed from DE. Reduced Output - Customised Winding Method of Starting : DOL							
KALWA, INDIA Department : I DT LD P LV-Motors		Reference Document MTR 2.6-1B2		Printed & Checked: Date: 03.09.2018 [Signature]		Formal Release Date Aug '2011	

Format Reference No.: MTR 7.1-006

DokuSizer12_V4.54

7/11

8



8/11

DokuSizer12_V4.54



S

Start-up Curves (for motors started on grid supply only)

(Unique Identification Code: UKG-6641063) This code must match with the one on the Data Sheet.

DATA SUBJECT TO TOLERANCE AS PER IS : 12615 / IEC 60034-1.

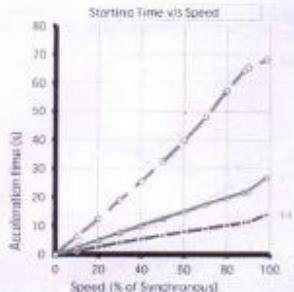
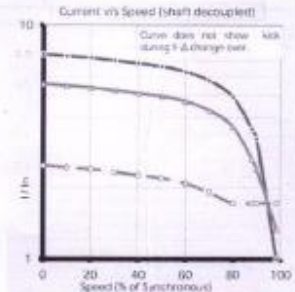
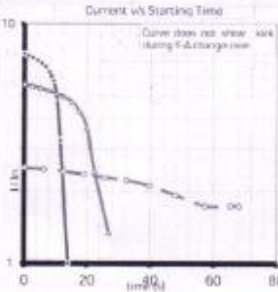
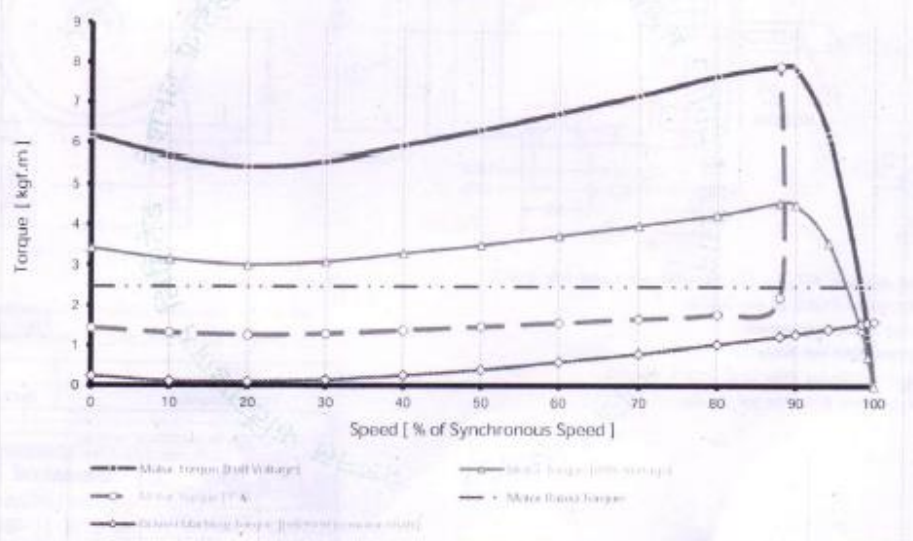
Motor Details			
Motor Type:	TA2 112-2NA90-7	Voltage:	415VA
Output:	7.5 kW	Rated Current:	13A
Rated Speed:	2952 rev/min	Rated Torque:	2.6 kgf.m @ 24 Nm
		Speed at which pull-out occurs:	2642 rev/min

Driven Machine Details			
Nature of Torque Speed Curve: M - M - Damped (The large value) Full Open Starting			
Absorbed Power:	4.6 kW	Referred to Driven Machine Shaft:	8.8 kgf.m ²
Driven Machine Speed:	2952 rev/min	Referred to Motor Shaft:	8.8 kgf.m ²

Motor Data & Starting Time Calculations									
Type of Starting	LRC	LRW (s)		No. of starts/min		Time required to accelerate between (s)			Remarks
	(From the table)	Hot	Cold	Hot	Cold	0 - 2640	2640 - 2952	0 - 2952	
Full Voltage ODL Start	7.5	30	44	3	4	11	5	14	
Starting with 80%V at terminals	5.6	54	70	2	3	21	6	27	
Y-Δ Starting	2.5	127.5	167	2	3	75	3	58	Start to 1/2 full speed over most at 65%

Note: The results of superposition are subject to designed flux levels being available. The nature of all motor curves is inductive and is as shown when operating on a balanced sinusoidal supply. The (LRW) Areas of starting time are based on the driven equipment details (data and curves) depicted below. The current vs time curve shown here is indicative based on design values of locked rotor current and customer acceleration slope. This curve can actually be different depending on the exact nature of the driven equipment characteristics, voltage and frequency available at the motor terminals and the harmonics content in the supply, which can affect the motor torque speed curve. The current vs speed curve is indicative and is plotted for motor run-up with short decoupled condition. Its nature does not change for shaft decoupled case but depiction of this curve does not guarantee stability of motor in respect to full speed as it is dependent on driven machine characteristics and other condition. No. of starts are computed based on IEC calculations therefore actual starting time may vary more than 20%.

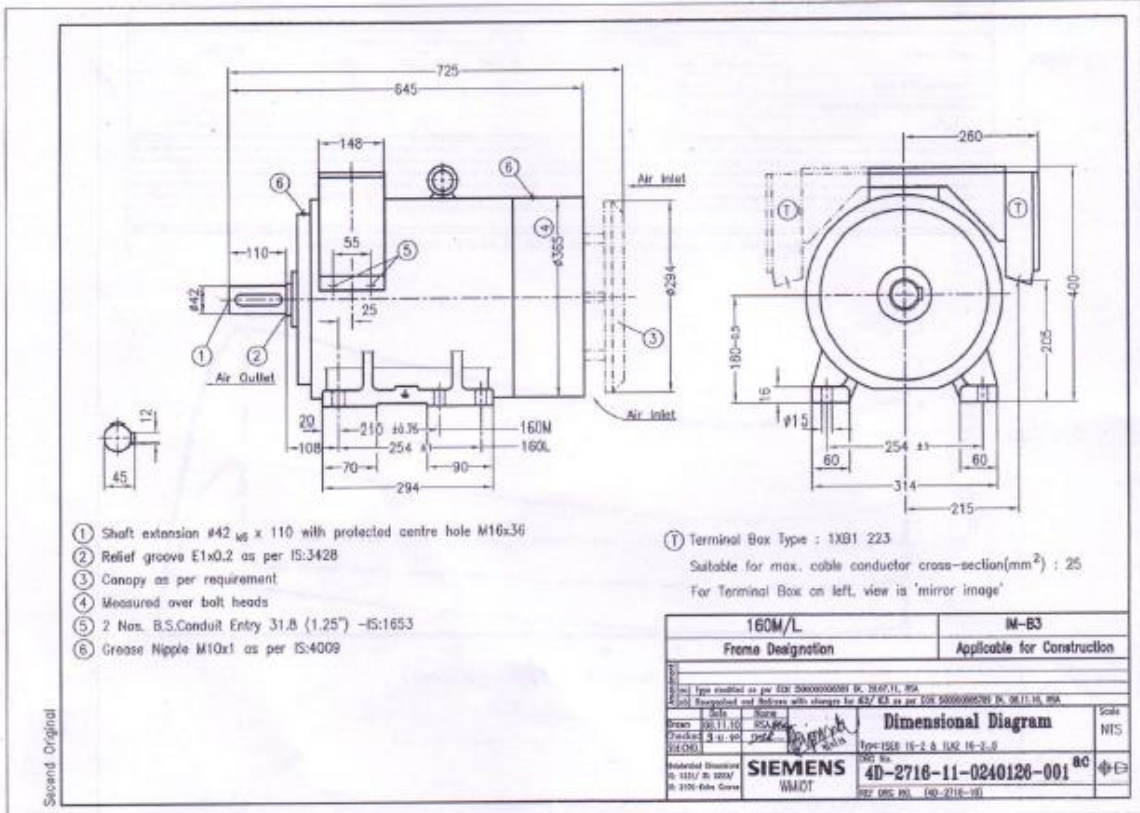
Speed vs Torque Curve No.: ST 2532-20-88-23 : Rotor Class: KL16



KALWA, INDIA	Reference Document	Printed & Checked	Formal Release Date
Department : I DT LDP LV-Motors	MTR 2.6-182	Date : 03.09.2018 (Signature)	Aug '2011

DokuSzer12_V4 54

9/11



- ① Shaft extension #42 ϕ x 110 with protected centre hole M16x36
- ② Relief groove E1x0.2 as per IS:3428
- ③ Canopy as per requirement
- ④ Measured over bolt heads
- ⑤ 2 Nos. B.S.Conduit Entry 31.8 (1.25") -IS:1653
- ⑥ Gross Nipple M10x1 as per IS:4009

⑦ Terminal Box Type : 1XB1 223
 Suitable for max. cable conductor cross-section(mm²) : 25
 For Terminal Box on left, view is 'mirror image'

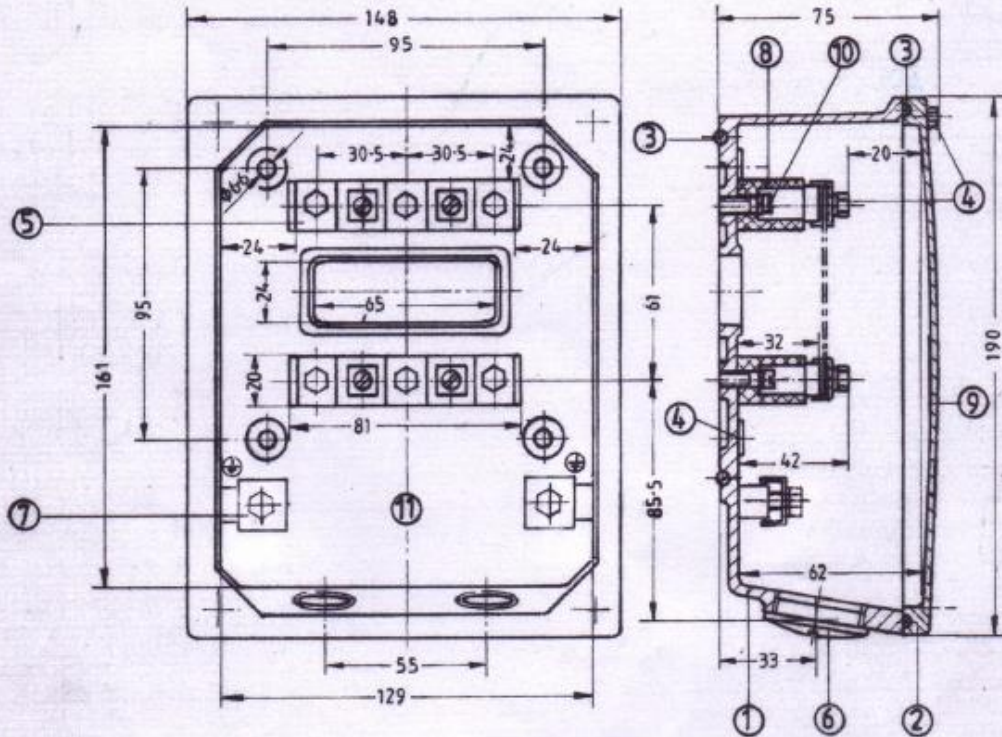
160M/L	N-B3
Frame Designation	Applicable for Construction
Scale: NTS Dimensional Diagram SIEMENS 4D-2716-11-0240126-001	

Second Original

10/11

SIEMENS	INFORMATION SHEET Terminal box 1XB1 223	TMO 7-318 Page 1/1
----------------	---	-----------------------

All dimensions in mm unless otherwise specified



Terminal box suitable for max. cable conductor cross section (mm²): 25
: 16 for 1MA

- ① Terminal box base of aluminium alloy
- ② Terminal box cover of aluminium alloy
- ③ Round rubber gasket
- ④ Hex. Screw M6x20
- ⑤ Terminal clamp
- ⑥ Threaded plug for 2x conduit entries B.S. Con. 31-8 (1 1/4") as per IS:1653
- ⑦ Earthing terminal
- ⑧ Terminal block of DMC (660V, 63A)
- ⑨ Connection diagram
- ⑩ Cheese head Screw AM6x12
- ⑪ Space for auxiliary terminals PTC / ACH. Conduit entry, B.S. Con. 19 (3/4") as per IS:1653, from side.

D/-
T
LOP
HO

SIEMENS LTD.	Dept: WMOT/T	Prep: <i>dd</i> Date: 15-7-89	Chkd: <i>M</i> Date:	12-7-89
--------------	--------------	----------------------------------	-------------------------	---------

11/11