



General Contract Conditions (GCC)
of
MM Tenders

G1. INSTRUCTION TO BIDDER

Quotations shall be submitted before due date and time. Late offers are liable to be rejected, so please ensure to submit bid well within due date and time. Techno-commercial part will be opened on due date.

Based on evaluation of techno-commercial offers, Price bids of bidders who qualify from techno-commercial evaluation shall be opened. BHEL may decide to open the Price bid same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids by email/fax/post/courier.

Sealed Tenders can be dropped in the tender box labeled as 'Tender box for MM contracts'. This tender box is located at the entrance of Admin block BHEL Goindwal. Fax (01859-222061) / E-Mail (tendermm@bhelivp.in) offers received in time shall be considered only when such offers are complete in all respects.

In case of bulky tender please handover quotation to Sh Harpreet Rai/ DGM/Head-MM or Sh Tajinder Singh/AGM/HR,Civil,MM.

G2. INSTRUCTION TO BIDDER (In case of E-Procurement)

The bidder shall submit his response through bid submission to the tender on e-Procurement platform at <https://bheleps.buyjunction.in>

- The bidder would be required to register on the e-procurement market place <https://bheleps.buyjunction.in> and submit their bids online. **Sealed cover bids / e-Mails / FAX / Manual offer will NOT be accepted.**
- The bidder has to keep track of any changes by viewing the addendum / Corrigendum's issued by the Purchaser on time-to- time basis in the E-Procurement platform. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.
- The user should complete all the processes and steps required for bid submission. The successful bid submission can be ascertained once acknowledgement is given by the system through bid submission number after completing all the processes and steps. BHEL and mjunction Services Ltd. will not be responsible for incomplete bid submission by users. Users may also note that the incomplete bids will not be saved by the system and are not available for the Purchaser for processing.

Before uploading scanned documents, the bidders should sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity. If nothing is mentioned it is assumed that all terms and conditions are acceptable. If supplier is mentioning his rates in units not asked by BHEL, BHEL has the right to reject/accept quotation.

Quotations shall be submitted before due date and time. Techno-commercial part will be opened on due date. BHEL may decide to open price bids of bidders who qualify from techno-commercial evaluation, on the same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids.

G3. PRICE BASIS

- a. CST, VAT & Excise duty + any cess on ED at the rates applicable shall be payable extra against ED Gate Pass valid for CENVAT benefit.
- b. Order of enquiry item sl. No. shall be maintained in the quotation.
- c. The rates quoted shall be firm and fixed. No price variation is proposed and allowed.
- d. Rates quoted should be F.O.R Goindwal basis. If bidder has quoted Ex Works, loading shall be done as per BHEL discretion for tender evaluation.

Variation in excise duty, sale tax/ vat or any other statutory levies during contractual delivery period shall be to BHEL's account

G4. VALIDITY OF OFFERS:

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08/06/15



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The offers shall be kept open for acceptance 'for number of days mentioned in special terms and conditions' from the date of opening of the tender. In case of extension of tender opening date, the validity shall be suitably revised.

G5. SCOPE OF SUPPLY

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender Enquiry. National & International material Standards shall have to be arranged by vendors themselves.

G6. REPLACEMENT OF REJECTION:

If the material is rejected due to defective workmanship during inspection or at the time of actual use, within the guarantee period (i.e. as per clause 12); the rejected material shall be replaced by the supplier. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. If the material is found defective and rejected during use for which payment has already been released the rejected quantity shall be supplied free of cost by the vendor within a month of intimation of the rejection by BHEL.

Lifting of rejected material is under Supplier's scope. BHEL will inform related invoice, qty etc to supplier. Supplier is expected to give the plan to lift and advance intimation when visiting to lift the material. Material should be lifted within one month from date of intimation. After one month BHEL will not be responsible for rejected material. BHEL may decide to send the rejected material on To Pay basis to supplier. Any leniency/ unresponsiveness/delay on part of supplier may lead to appropriate action by BHEL. Any request to postpone in written may be considered but replacement should not be linked with lifting of material.

G7. SUPPLIED MATERIAL ADJUSTMENT:

Item/s pending in previous PO has to be billed in previous PO only. Otherwise BHEL will be free to adjust the supplies in previous PO. Any implication of Excise, VAT etc will be on supplier's account. For this it is desirable to reconcile the pending PO statement every month/frequently. BHEL will give pending PO statement every month. This can also be viewed at Portal (<http://vis.bheltry.co.in/mm/index.jsp>).

G8. DELIVERY SCHEDULE:

Supplies shall be affected and completed as per schedule mentioned in special terms and conditions. **Further, BHEL may release delivery schedule from time to time based upon our requirement with mutual understanding.** Vendor shall be required to complete the order as per the BHEL schedule requested.

G9. ACCESS TO MANUFACTURING PREMISES:

While Purchase Orders placed on the vendor are under execution, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL (which shall be intimated in advance), if our contractual requirements with our customers call for the same.

G10. TERMS OF PAYMENT:

- a. Due payment against supplies received shall be due after 30 days of receipt and acceptance of material and shall be paid within next 15 days period. In case of any deviation from standard payment term mentioned, BHEL at it's discretion may load on the item price at "Base rate of SBI (as applicable on the date of bid opening; Techno-commercial bid opening) + 6% shall be considered for loading for the period of relaxation sought by bidders.
- b. Documents to be submitted (if applicable)
 - i. Commercial invoice (in duplicate)
 - ii. Excise invoice (in duplicate) valid for claiming CENVAT credit



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- iii. Original VAT invoice valid for claiming input tax credit,
 - iv. Transporter copy along with material/consignment.
 - v. Material Test Certificates (MTC) and
 - vi. Compliance Certificate.
- c. Above documents should include your Registration numbers such as ECC no, PAN no, CST no, TIN/VAT nos. etc.
- d. If excise claim document is not received within time for claiming excise benefit as per restriction in availment of CENVAT Credit within six months of date of Invoice (Amendments in Union Budget 2014), the implication of this will be paid by supplier.
- e. It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.
- f. **BHEL releases payment through EFT mode ONLY. Necessary details may please be submitted by filling required format before release of payment.**

G11. INSPECTION:

- a. All required tests as called in referred material standard/BHEL/TDC/drawing etc shall be carried out by vendor at no extra cost. **BHEL may decide to inspect itself/arrange third party at vendors' works itself as and when necessary with prior intimation to the vendor.** No additional charges shall be claimed for such inspections.
- b. Third party inspection charges will be borne by BHEL. Moreover all required infrastructure (testing, tools etc) have to be arranged by supplier.
- c. **Vendor will give inspection call sufficiently in advance considering the delivery period stipulated in the purchase order.**
- d. Material Test Certificates (MTC), Inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.
- e. Latest applicable revisions of standards/procedures to be referred. International/National standards are to be arranged by vendor.
- f. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.
- g. Necessary tooling including thread gauges etc have to be arranged by vendor. Only in exceptional cases, based on BHEL discretions item/nature, BHEL may consider request to provide gauges if available with BHEL. But in no case this shall be linked with delivery of material.

G12. PREFERENCES FOR MSE's:

Preferences as mentioned in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" shall be given to Micro and Small enterprises.

Main points which are mentioned in the above order are as follows:

- 20% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 4% from the above mentioned 20% procurement quantity shall be procured from MSE's owned by SC /ST's. Failure to participate by any MSE owned by SC/ST's this 4% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 20 per cent of total tendered value. In case of more



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than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

“MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure -A where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.”

G13. GUARANTEE/WARRANTEE:

Vendor shall give a guarantee of 18 months from the date of dispatch or 12 months from date of receipt, against manufacturing defects, whichever is earlier. In case of non-acceptance of this term bid will be rejected.

G14. PENALTY FOR LATE DELIVERY:

‘Time is the essence of the contract’. As such, delivery of goods specified in the Purchase Orders released under the scope of this contract shall be made within the time limit prescribed therein. Penalty for late delivery will be applicable @ 0.5% per week or part thereof subject to a maximum of 10.0 %.

If any vendor does not accept LD ½% of the supply for each week of delay subject to a maximum of 5%, their offer is likely to be rejected by BHEL and the price bid shall not be opened. Bidders accepting for 10% LD shall not be loaded on account of LD. However bidders who offer any other % LD [between 5% to 10%] shall be loaded @ % deviation from 10% and their accepted % e.g. If a bidder accepts for a max of 7% LD only, their offer would be loaded @ 3% (10 – 7 = 3).

BHEL reserves the right to receive or not receive the material after the due date of PO.

G15. RISK PURCHASE:

BHEL shall be entitled to terminate the contract/pending POs at any stage and to purchase elsewhere at the risk and cost of the vendor, either the whole of the goods or any part thereof which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase.

G16. SUB-CONTRACT:

The purchase order or any part thereof shall not be sub-contracted, assigned or otherwise transferred without previously obtaining the BHEL's consent in writing.

G17. FORCE MAJEURE:

If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to “an events” then provided the notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such

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event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed a waiver of time in respect of remaining deliveries.

G18. DISPUTES:

In the event of any dispute and/or difference arising between the Vendor and BHEL as to interpretation and/or execution of the contract and/or the respective rights and liabilities of the parties, such disputes and/or differences shall be referred to the sole arbitrator nominated by BHEL. The provisions of the Indian Arbitration Act and the rules there under shall apply to such arbitration. The award passed by the arbitrator shall be final and conclusively binding on all the parties.

G19. JURISDICTION:

The court of the place from where the purchase order is issued during the contractual period shall alone have jurisdiction to decide any dispute arising out of or in connection with the purchase order.

G20. CLARIFICATIONS

The correspondence exchanged against the tender from both tenderer and BHEL through email/e-procurement are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.

G21. LOI(Letter of Intent)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

G22. WORDS AND FIGURES

- a. If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
- d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

G23. GENERAL:

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- a) BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.
- b) BHEL reserves the right to extend the due date of opening, which shall be informed. Validity of offer shall be deemed to be revised accordingly.
- c) BHEL reserves the right to accept or reject any part or whole of the tender of a bidder by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
- d) If possible, please submit soft copy of price quotation [copied on a blank CD of standard make] put in the sealed offer.
- e) Acceptance of all terms and conditions, in the form of signed copy of T&C or confirmation separately written, shall be submitted along with quotation. If nothing is mentioned, it shall be concluded that terms and conditions are acceptable.
- f) BHEL may increase/decrease item/s based on BHEL requirement before price bid opening. Suitable price implication may be asked from suppliers.
- g) BHEL may drop item/items from tender at any stage of tender before placing PO. BHEL may also delete PO with consent with supplier within delivery date of PO.
- h) After releasing PO, it is assumed that supplier has accepted PO if we do not receive acknowledgement from supplier within 5 days of date of PO.
- i) Any term is special tender terms and conditions will supersede the GCC.
- j) If advance tax is applicable at Punjab border. Supplier has to deposit this advance tax by himself which will be reimbursed on submission of documentary proofs (Copy of entry tax receipt/online transfer details duly verified).
- k) BHEL reserves the right to negotiate with L1 bidder/s.

G24. BANNED FIRMS:

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage in the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.

G25. DISCLAIMER CLAUSE: (Only for E procurement)

Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider (mjunction Services Ltd.) is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.

G26. REVERSE AUCTION:

"BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non- submission of „online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue."

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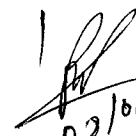


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Terms & Conditions of Reverse Auction

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

- a. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- b. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of „online sealed bid" by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- c. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- d. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- e. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- f. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- g. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non- compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- h. Reverse auction will be conducted on scheduled date & time.
- i. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- j. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- k. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
- l. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the "Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
- m. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- n. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- o. **In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.**


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BHEL GOINDWAL

SPECIAL TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1516-030 Dated 08.06.2015 Due date 30.06.2015)
ITEM: Supply of Oils Seals & O-rings

Tender Enquiry No.	1516-030
Enquiry date	08.06.2015
Last time and date of tender submission	1500 Hrs 30.06.2015
Tender opening time and date	1530 Hrs 30.06.2015
Quotation Parts	<u>Two-part Bid</u>
Item Description	<u>Supply of Oils Seals & O-rings</u>
Item Specification	<u>As per drawings</u>
Delivery schedule (In days)	<u>Within 60 days from the date of release of PO/LOI</u>
Validity of offer (In days)	<u>60 days</u>
Quantity Variation	<u>+/- 10% of tender quantity</u>

Documents required along with supply of material	
1. Test Certificate	<u>Required</u>
2. Compliance Certificate	<u>Required</u>
3. Third Party Inspection Report	<u>Applicable</u>

Pre-qualification criteria

P1.

For manufactures

Procurement shall be preferred from manufacturers. In case manufacturer insists on engaging a dealer / agent, such dealer / agent is not allowed to represent more than one manufacturer.

For dealers

In case of dealers / agents, authorized dealer certificate is required from original manufacturer for this tender. In case bids are received from dealer / agent and manufacturer both, bid submitted by dealer will be rejected. A dealer representing more than one manufacturer will be rejected. Kindly quote for single make only.

P2.

Bidders need to submit one purchase order of value more than Rs. 20000/- for the supply of similar items of any of its customer within last 04 years from the date of opening.



**SPECIAL TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1516-030 Dated 08.06.2015 Due date 30.06.2015)
ITEM: Supply of Oils Seals & O-rings**

BHEL GOINDWAL

SPECIAL TERMS

S1. QUOTATION SUBMISSION


Tenders in two part bids are invited from manufacturers for Supply of Oil Seal & O-Rings.

Sealed tenders in two parts; Part-I: Techno-commercial bid and Part-II: Price bid are hereby invited for 'Supply of Oil Seal & O-Rings' as per tender enquiry. The relevant documents are attached with the Enquiry.

The two bids should be submitted in **separate sealed inner envelopes** duly mentioning the detail as follows:

Bid	Bid description	Superscribing on envelope	*** Should contain ***
Part I in First sealed envelope	Techno-Commercial Offer	Part-I (Techno-Commercial) bid against tender enquiry no: 1516-030 dated 08.06.2015 Due date 30.06.2015.	1. Acceptance of all terms and conditions of tender enquiry. (Preferred is submitting signed copy of terms and conditions; if nothing is mentioned for any term, it shall be summarily concluded that the same is acceptable and no representation whatsoever shall be entertained later on).
			2. Un-priced bid as per format attached. All details, i.e. whether quoted for item, duties and taxes etc. should be filled.
Part II in Second sealed envelope	Price Bid	Part-II (Price) bid against tender enquiry No: 1516-030 dated 08.06.2015.	Price bid in the format attached.
			Anything other than prices mentioned in the price bid shall be considered invalid

Both the sealed envelopes should be put in outer sealed envelope superscribing all details i.e. Enquiry Number, Date, Supplier's Name and Address and Item.


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BHEL GOINDWAL

SPECIAL TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1516-030 Dated 08.06.2015 Due date 30.06.2015)
ITEM: Supply of Oils Seals & O-rings

CHECKLIST AND SEQUENCE OF DOCUMENTS TO BE SUBMITTED IN TWO PARTS BIDS

S. No.	Document	Status
1	Envelope should contain (1) Pre-qualification a) Purchase Order of value more than Rs. 20000 of similar items of any of its customer within last 04 years from the date of opening (2) Techno-Commercial bid sealed in separate envelope superscribing tender enquiry detail, due date of opening, sender address	Yes, Sealed Sealed envelope marked as Part-I "Techno-Commercial Bids"
2	Price Bid sealed in separate envelope superscribing tender enquiry detail, due date of opening, sender address	Yes, sealed Sealed envelope marked as Part-II "Price Bid"
3	All two sealed envelopes put in an outer envelope mentioning all details like Enquiry no., description, due date	Yes


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Annexure-I to Enquiry No. 1516-030 Dated 08.06.2015 Due date of submitting quotations 30.06.2015

Un-Price Bid Format

Enq Sl. No.	Material Code	Description	Drawings/Specifications	TDC No.	Enquiry Qty (Nos.)	Quoted	Unit Basic Price, Rs. per piece
1	963530830000	OIL SEAL B12.5X25(NITRILE)	0	TDC:5:151/02	1600	Yes/No	"Pl. see price bid"
2	963530820000	OIL SEAL 20X32X7(NITRILE)	0		1500	Yes/No	"Pl. see price bid"
3	963530900000	O-RING D20.6(NITRILE)	32000101855/00		1200	Yes/No	"Pl. see price bid"
Excise Duty rate (mention in % if applicable, mention as NIL if not applicable)					Applicable / Not applicable		
					Extra / Inclusive		
					% if applicable	<i>Pl. clearly mention</i>	
CST (%) / VAT (%)					Extra / Inclusive		
					%	<i>Pl. clearly mention</i>	
Delivery destination (FOR Goindwal Sahib basis)						<i>Pl. clearly mention</i>	
Validity of offers (As per BHEL terms 60 Days validity is required from date of opening of tender)						<i>Pl. clearly mention</i>	
The above prices are Firm, without any price esclation; are Rs. Per piece; and are on FOR Goindwal Sahib basis.							
We accept all terms and conditions of the Tender Enquiry No. 1516-030 Dated 08.06.2015 Please note that nothing will be considered other than prices in the price bid.							
Authorised signatory with seal							



Annexure-II to Enquiry No. 1516-030 Dated 08.06.2015 Due date of submitting quotation 30.06.2015

Price Bid Format

Enq Sl. No.	Material Code	Description of material	Enquiry Qty (Nos.)	Drawings / Specifications	TDC No.	Unit Basic Price, Rs. per piece	
						In Words	In Figures
1	963530830000	OIL SEAL B12.5X25(NITRILE)	1600	0	TDC:5:151/02	To be filled by vendor">>	
2	963530820000	OIL SEAL 20X32X7(NITRILE)	1500	0		To be filled by vendor">>	
3	963530900000	O-RING D20.6(NITRILE)	1200	32000101855/00		To be filled by vendor">>	

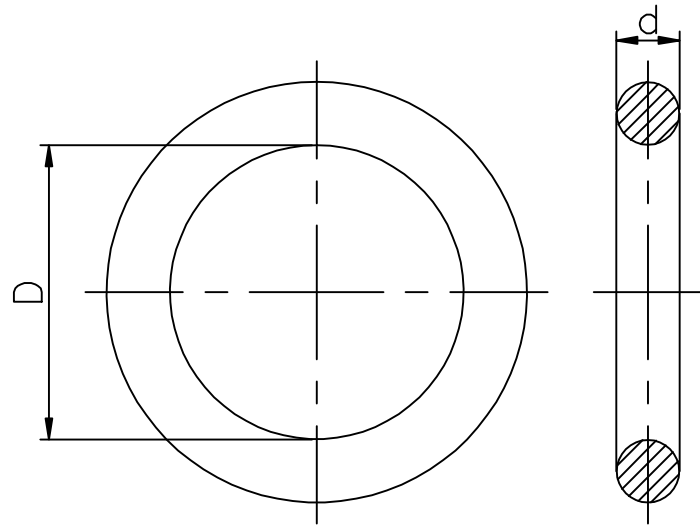
Nothing except prices will be entertained in part-II of tender.
Taxes and other conditions will be as mentioned in Unprice Bids.

Authorised signatory with seal

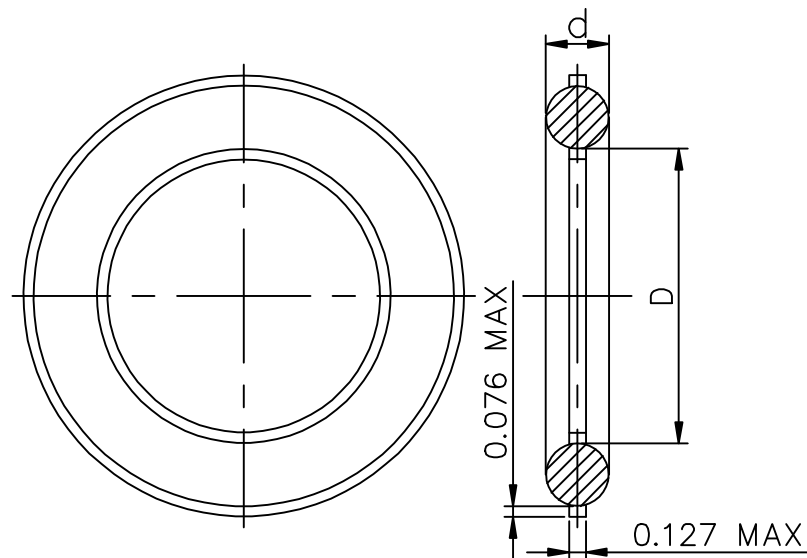
ALL DIMENSIONS ARE IN MILLIMETRES.

DRAWING NO. 3-20-001-01855

NOTE: FOR DIMENSIONS REFER TABLE BELOW



TYPE - 'A'



TYPE - 'B'

TYPE	φ D (mm)		d (mm)		Material	Temp °C		Wt / 1000 in kg	Material code	Shore Hardness
	Basic	Tol.	Basic	Tol.		Normal during Appln.	Short period of 48 Hours.			
A	20.6	±0.15	2.30	±0.1	Nitrile	121	149	4.5	96 353 090 0000	75 ± 5
A	94.0	±0.4	5.30	±0.15	Viton	204	315	12.88	96 353 060 0000	75 ± 5
A	97.0	±0.4	5.30	±0.15	Viton	204	315	13.27	96 353 061 0000	75 ± 5
B	21.8	±0.15	3.50	±0.1	Nitrile	121	149	6.5	96 353 307 0000	75 ± 5

NOTES:

- O-RINGS ARE TO BE STORED UNDER COVERED AREA.
- EXPOSING TO ATMOSPHERE WILL DAMAGE THE MATERIAL.
- TO BE PACKED AND DESPATCHED IN CARD BOARD / WOODEN BOXES.
- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

THIS DRAWING REPLACES SPECIFICATION TSB:022

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	REMARKS	ITEM No	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.						DRN	NAME	SIGN	DATE	NO. OF VAR.
						CHD	J.SANKAR	J.S	24.09.10	
						APPD	K.SRIDHARAN	K.S	24.09.10	
DEPT	SB	SCALE		WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS	
CODE	330	NTS								
TITLE						CARD CODE	DRAWING NO.		REV	
'O' RINGS						U 01	3-20-001-01855		00	

REV	DATE	ALTERED
		CHD & APPD

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

TDC: 5:151	Rev.No.:02	Effective Dt.:15/11/96	Page 1
ELASTOMERIC COMPOUNDS for OIL FIELD EQUIPMENT			

Revision record:

Rev:00/16.04.90 : First issue

Rev:01/04.12.93 : Editorial corrections

Rev:02/15.11.96 : Elastomer TDCs 5:131,135,154,155,156,157,161,162,163,179,183 & 184 merged & rewritten

1.0 **MATERIAL SPECIFICATION** - Elastomer materials of grade specified in P.O.or drg. The property requirements are as given in Table-1.

2.0 **GENERAL**

These Elastomeric compounds are for use as O-rings/packings in water and oil based drilling fluids, sea water, petroleum based lubricants and ethleneglycol anti-freeze mixtures.

Shall be manufactured to the relevant size in the drawing.

The grade nos. specified correspond to the Standards of M/s National;USA.

3.0 **ENGINEERING REQUIREMENTS**

MATERIAL PROPERTIES: The property requirements for the elastomers are given in table-1.

The hardness tests shall be carried out as per D2240/ D1415 and tensile tests as per D412/D1414(as per D1457 for PTFE materials).Additional property requirements for grades MS-447 & MS 452 (tested as per D621) are as follows.

	MS 447	MS 452
Coefficient of thermal expansion (in/in/ $F \times 10^{-5}$) at 75 to 300°F	6.0+ 0.5	7.6+0.5
% deformation under load(max.)(24 Hours at 2000 psi at 70°F Min).	5.0	3.5
% permanent deformation (max.)after load release	2.0	2.2

4.0 **INSPECTION & TESTING**

The dimensions on the finished product shall conform to the relevant drawing.

Sampling inspection shall be carried out for visual,dimensions & hardness as per Cl.8.0.

The following type tests shall be carried out for conformance to this specification:

TYPE TESTS

AIR AGING TEST : This test shall be carried out in an Air oven (ASTM D573) or by heating in air in a test tube enclosure (ASTM D865).The purpose of this test is to determine the influence of elevated temperatures on the physical properties of vulcanized rubber.

The test shall be carried out at Minimum test temperature shown in table-2 for each grade for 70 hrs. in accordance with ASTM D412 and properties after air aging test shall conform to table-2.

COMPRESSION SET TEST : This test shall be carried out in accordance with ASTM D395 B i.e. Compression set under constant deflection in air with exceptions listed out in ASTM D1414 Cl.10.0

The test shall be performed at a minimum test temperature indicated in table-2 for 70 hours, except for Grade MS 225. For grade MS:225, the test duration shall be 22 hours.

The maximum permanent compression set shall comply to table-2.

LOW TEMPERATURE BRITTLINESS TEST : This test ensures that rubber will not exhibit fracture when subjected to specified impact conditions.The Test shall be carried out in accordance with ASTM D2137/D746 and shall PASS at the test temperature indicated in table-2.

IMMERSION TEST : This test ensures the ability to withstand the effect of liquids and shall be carried out in accordance with ASTM D471/D1414.

The liquids used for the test shall be ASTM Oil 1&3 at a minimum temperature indicated in Table-3 for various grades and Distilled water at a minimum temperature of 212°F for a period of 70 hrs.

Permissible variation in properties after immersion in liquids are given in Table- 3.

Immersion test is not applicable for grades MS 447 & MS 452.

VALIDITY : The validity of these Type test results is for two years from the date of test,in the case of PSL 1,2 & 3. However, in case of PSL 4,this test shall be carried out for each batch of purchase order. The type test shall be conducted at approved laboratory or witnessed by BHEL.

5.0 **SPECIAL REQUIREMENTS**

Insert ring shall be positioned as shown in BHEL drawing or the drawing approved by BHEL.

After Moulding, all parts must be inspected by the vendor/manufacturer to ensure proper positioning of the insert ring. The NDE to be followed can be RT/MT and meet the requirement indicated in the drawing.

The ring must be generally located in the web of the seal, but in no case, in flexible lip of the seal. No part of the ring shall be visible to the naked eye unless it is specified in the drawings.

6.0 DOCUMENTATION

For PSL 1,2 & 3: Certificate of compliance which indicates P.O.No, Drg No, Material grade & type tested compound no, Batchwise Cure/mould date & Shelf life(expiry date) shall be submitted.

For PSL 4 : Test certificates for the physical properties, in addition to certificates mentioned above shall be submitted for each P.O.

7.0 MARKING AND PACKING

Each item shall be packed in polythene cover individually with suitable preservatives like French chalk powder with label having following details.

- (a) Drg. Number & size (b) Purchase Order No. (c) Batch Number
 (d) Compound No. (e) Date of Cure/Mould (f) Shelf life (expiry date)
 (g) Any other relevant details specified in the Purchase Order/drawing.

Each item shall be supplied in sturdy carton boxes to protect against permanent distortion during shipment and storage and from sunlight, dust etc. during shipment and storage. Each box shall contain only one size and lot of the product as given below.

- (1) Size more than 6" -- each separate box (2) Size 2" to 6" -- 5 nos.in one box
 (3) Size below 2" -- 10 nos.in one box.

Each box shall also be labeled with details specified above viz (a) to (g) above.

8.0 SAMPLING PLAN: for elastomeric compounds based on MIL-STD-105(latest) single sampling normal inspection.

Lot size	Sample size	Acceptance/Rejection criteria
26 to 50	8	No defect permitted
51 to 90	13	-do-
91 to 150	20	Accept when no. of defect \leq 1; Otherwise reject
151 to 280	32	-do-
281 to 500	50	Accept when no. of defect \leq 2; Otherwise reject

For lot size 25 Nos. & below, 100% inspection shall be done.

TABLE-1 PROPERTY REQUIREMENT OF ELASTOMERS

Elastomer Grade	MS-219	MS-220	MS-221	MS-225	MS-231	MS-233	MS-426	MS-427	MS-428	MS-430	MS-431	MS-447	MS-452	
Material	NBR	NBR	NBR	NBR	FKM	FKM	TFEP	TFEP	FVMQ	HSN	XNBR	PTFE	PTFE	
Hardness	Value	60 \pm 5	70 \pm 5	90 \pm 5	70 \pm 5	90 \pm 5	70 \pm 5	90+10	80 \pm 5	85 \pm 10	80 \pm 5	70 \pm 5	65 \pm 5	63 \pm 5
	Type	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(D)	(D)	
Applicable	Min.	0	-20	-20	32	0	-20	-20	-20	-50	-20	-20	-50	-50
Temp. Range(°F)	Max.	180	180	180	200	250	250	250	250	250	250	180	250	250
Tensile strength in														
Psi (min)		2000	2000	2500	2000	1600	1500	2200	2000	1000	2500	2000	1500	1000
Ultimate elongation														
% (min)		500	300	200	350	100	100	100	100	150	150	300	75	75
Tensile modulus (psi)at														
100% elongation (min)		400	800	600	500	500	-	1000	500	500	400	-	-	
Tensile modulus (psi)at														
50% elongation (min)		-	-	-	-	-	-	1500	-	-	-	-	-	
Shelf life in years		2	2	2	2	4	4	4	4	4	2	2	10	10

NBR - Nitrile FVMQ - Fluoro Silicone (Silastic LS) FKM - Fluoro carbon(VITON,FLUOREL)
 HSN - Hydrogenated Nitrile TFEP - Tetra fluoro ethylene & Propylene(AFLAS) XNBR - Carboxylated Nitrile
 PTFE - Teflon (W/25% carbon/graphite filler)-MS447 ; PTFE - Teflon (W/Ryton/MoS2/Carbon filler)-MS452

TABLE-2 : AIR AGING, COMPRESSION AND LOW TEMPERATURE BRITTLENESS TEST REQUIREMENTS

Grade	Min. Test Temp °F	AIR AGING TEST				COMPRESSION TEST RESULT (Compression set) in (%) max	TEST TEMP. FOR LOW TEMPERATURE BRITTLENESS TEST.
		Acceptable variation in					
		Hardness points	Tensile Strength(%)	Ultimate Elongation(%)	Volume (%)		
MS 219	180	± 05	± 10	± 20	± 10	40	0°F
MS 220	180	± 10	± 15	± 20	± 05	30	0°F&-20°F
MS 221	180	± 05	± 10	± 30	± 10	25	0°F&-20°F
MS 225	212	± 10	± 10	± 20	± 10	40	32°F
MS 231	250	± 10	- 40max	- 20max	± 10	40	0°F
MS 233	250	± 10	- 40max	- 20max	± 10	40	0°F&-20°F
MS 426	250	± 10	± 10	± 15	± 10	30	0°F&-20°F
MS 427	250	± 10	- 25	- 25	-	40	0°F&-20°F
MS 428	250	± 05	± 10	± 10	± 10	30	0°F, -20°F, -50°F&-75°F
MS 430	250	± 10	± 10	± 20	± 10	30	0°F&-20°F
MS 431	180	± 05	± 15	± 20	± 10	35	0°F&-20°F
MS 447	-	-	-	-	-	-	0°F, -20°F & -50°F
MS 452	-	-	-	-	-	-	0°F, -20°F & -50°F

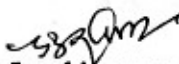
(*) Min. test temperature is same for both air aging test & compression test

TABLE-3 : IMMERSION TEST REQUIREMENT

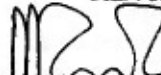
Grade	Min Test temp. °F (*)	Permissible variation in properties (±) with											
		ASTM Oil # 1				ASTM Oil # 3				Distilled water			
		Hardness	Tensile strength	Ultimate Elongation	Volume	Hardness	Tensile strength	Ultimate Elongation	Volume	Hardness	Tensile strength	Ultimate Elongation	Volume
MS 219	180	05	10	20	10	10	20	15	20	05	15	20	10
MS 220	180	10	20	20	10	10	20	20	10	10	20	20	10
MS 221	180	05	15	30	10	05	15	30	10	05	15	10	05
MS 225	212	05	05	10	05	05	05	10	10	-	-	-	-
MS 231	250	05	15	10	05	05	10	10	05	05	20	10	10
MS 233	250	05	15	10	05	05	10	10	05	05	20	10	10
MS 426	250	10	15	20	10	10	15	20	20	10	15	20	10
MS 427	250	05	15	25	10	10	20	25	10	05	15	20	10
MS 428	250	05	15	10	10	10	20	10	30	05	10	10	10
MS 430	250	10	10	20	10	10	10	20	10	06	10	10	10
MS 431	180	10	20	20	10	10	20	20	10	-	-	-	-

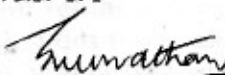
*Min. test temp. specified is only for immersion test with ASTM Oil #1 & 3. For distilled water, the test temp. is 212°F.
NOTE: Values indicated in Table are % values, except for Hardness. For hardness, it is variation in absolute value.

Prepared by

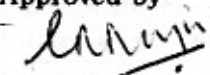

G. Janakiraman
Qual Assurance

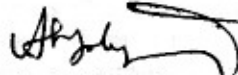
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**PRODUCT ENGINEERING / V & SB
TECHNICAL DELIVERY CONDITIONS FOR
SUBDELIVERY COMPONENTS OF SOOT BLOWERS**

TSB : 021

Rev. 03

SHEET No. 01 of 04

OIL SEALS

1. **Application** : Used to prevent the leakage of oil and penetration of dust or both and other Harmful particles along the surface of the shaft in gear boxes.
2. **Material** :
 - a. As specified against the Part number.
 - b. Spring made up of austenitic stainless steel to AISI 304.
3. **Workmanship**: Sealing lip shall be well finished, free from burrs, and sharp edges. The shaft / housing should be finished to 3.2 microns.
4. **For dimensions and tolerances refer Annexure 1 and NOTE AT THE END.**
5. **Weight** : Weights have been calculated based on the average density of the Respective material of oil seals as indicated in Annexure 2.
6. **Inspection & Testing** :

Inspection Shall be carried out at BHEL works by BHEL Inspector for the following:

 - a. Check for dimensions.
 - b. Visual inspection for surface defects in the sealing surfaces. Sealing face should be free from any surface defects like nicks, cuts, tears, etc.
 - c. Test certificate for the compliance of material specification is to be obtained from the Supplier.
7. **Packing & Despatch**: These components are to be packed in polythene covers and dispatched in cardboard boxes.
8. **Storage** : Seals shall be stored in a dust and ozone free atmosphere, not to be exposed to sunlight and to severe cold. Exposing to atmosphere will damage the material. Hence it is to be stored under covered area.
9. **Typical designation** : Oil seal of type B with Shaft ϕ 40 mm and Housing ϕ 63 mm with width 10 mm shall be designated as **Oil Seal B 40 x 63 x 10**.
10. **Markings** : Oil seal shall be legibly marked at a suitable place with shaft dia., Bore of the housing, Width and trade mark.
11. **Spares** : This is offered as main spares. 5% excess to be ordered for manufacturing reserve.

Rev:03 Dt.10/03/2007.

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Prepared (K. SRIDHARAN)

DATE:
10/03/2007.

Approved (S. NATARAJAN)

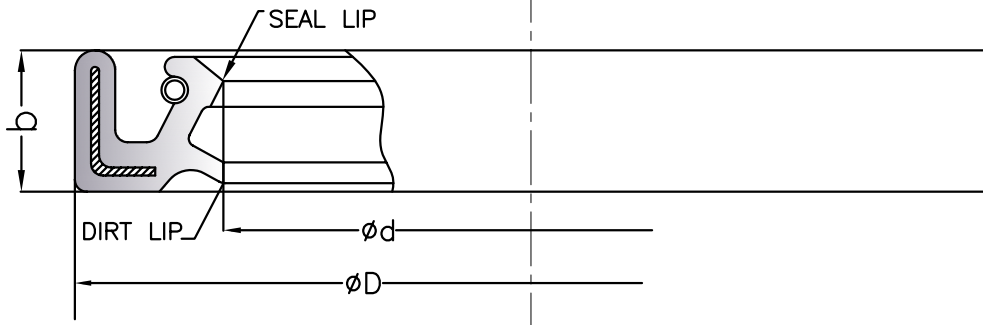


PRODUCT ENGINEERING / V & SB
TECHNICAL DELIVERY CONDITIONS FOR
SUB DELIVERY COMPONENTS OF SOOT BLOWERS

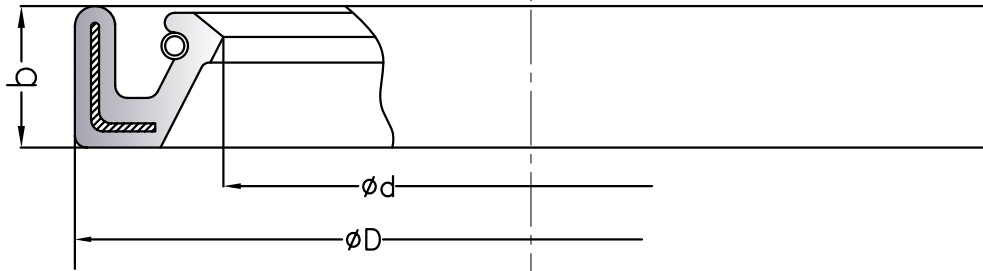
TSB : 021

REV. 03

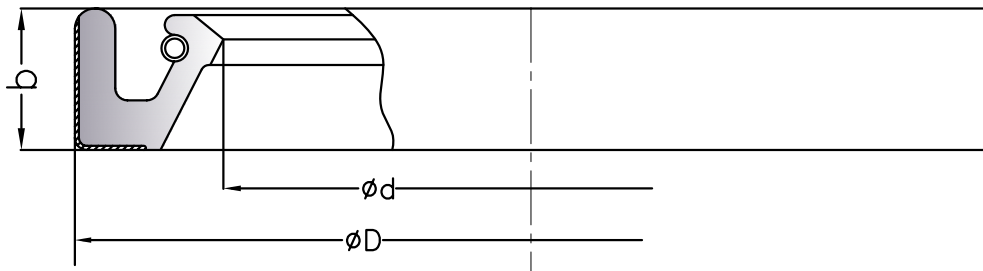
SHEET No. 02 OF 04



Type A- Moulded seal with Metal Insert; single spring Double Lip oil seal.



Type B- Moulded seal with Metal Insert spring loaded single Lip oil seal.



Type C- Moulded seal with External Metal strip spring loaded single Lip oil seal.

REV. 03 Dt. 10 / 03 / 2007.

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PREPARED (K.SRIDHARAN)

DATE :
10 / 03 / 2007

APPROVED (S.NATARAJAN)

ANNEXURE - I
DIMENSIONS OF THE OIL SEALS
ALL DIMENSIONS ARE IN MM

Material Code	Material	Description	Application	TYPE	SHAFT DIA (d1)		HOUSING DIA		WIDTH (b) ± 0.2	Tolerance on OD of the seal*	Ovality on OD of the seal*
					BASIC	TOLERANCE	BASIC	TOLERANCE			
96 353 067 0000	Nitrile	Oil Seal A40 x 63 x 12	a. Two Nos.Per long retract – IE b. One No. Per furnace probe	A	40	+0.011 -0.005	63	0.000 -0.025	12	+ 0.3 + 0.2	0.1
96 353 066 0000	Nitrile	Oil Seal B42 x 63 x 10	a. Two Nos.Per long retract b. One No. Per furnace probe	B	42	±0.05	63	0.000 -0.025	10	+ 0.3 + 0.2	0.1
96 353 159 0000	Nitrile	Oil Seal B30 x 47 x 7	3 Nos.Per Rotary Blower.	B	30	+0.028 +0.015	47	±0.02	7	+ 0.25 + 0.15	0.05
96 353 082 0000	Nitrile	Oil Seal B20 x 32 x 7	1 Nos.Per Wall deslagger.	B	20	-0.020 -0.053	32	+0.059 0.000	7	+ 0.25 + 0.15	0.05
96 353 083 0000	Nitrile	Oil Seal B12.5 x 25 x 8	1 Nos.Per Wall deslagger.	B	12.5	0 -0.027	25	+0.033 0.000	8	+ 0.25 + 0.15	0.05
96 353 311 0000	Viton	Oil Seal C106.4 x 150 x 12	1 Nos.Per LRD II E & II ES.	C	106.4	-0.025 -0.050	150	±0.025	12	± 0.2	0.1
96 353 310 0000	Viton	Oil Seal C98.5 x 140 x 12	1 Nos.Per LRD II E & II ES.	C	98.5	+0.070 -0.030	140	±0.025	12	± 0.2	0.1
96 353 419 0000	Viton	Oil Seal A85 x 120 x 16	LRS IE	A	85	-0.056 -0.080	120	±0.040	16	± 0.13	0.1

* TO BE DECIDED BY THE SUPPLIER TO HAVE EFFECTIVE SEALING.

NOTE :

01. The dimensions $\varnothing d$ and $\varnothing D$ of the seal shall be as decided by the supplier to suit the mating dimensions of the shaft and housing bore for effective sealing. The interference between $\varnothing d$ & $\varnothing d_1$ (Shaft Dia) can range from 1.25 mm to 3.75 mm.
02. The drawing shows only the overall dimensions. The design of the oil seal is the responsibility of the supplier for its satisfactory performance.

PREPARED (K. SRIDHARAN)

APPROVED (S. NATARAJAN)

**ANNEXURE - II
 WEIGHTS OF THE OIL SEALS**

Material Code	Material	Description	Wt. / piece in grams		
			Material		
			NITRILE	NEOPRENE	VITON
			Average Density (gm/cc)		
			1.5±0.1	1.61±0.1	1.87±0.1
96 353 067 0000	Nitrile	Oil Seal A40 x 63 x 12	32.7	34.8	40.3
96 353 066 0000	Nitrile	Oil Seal B42 x 63 x 10	30	32.3	37.4
96 353 159 0000	Nitrile	Oil Seal B30 x 47 x 7	12.5	13.5	15.6
96 353 082 0000	Nitrile	Oil Seal B20 x 32 x 7	8.55	9.3	10.6
96 353 083 0000	Nitrile	Oil Seal B12.5 x 25 x 8	5.56	5.95	6.9
96 353 311 0000	Viton	Oil Seal C106.4 x 150 x 12	-	-	~100.00
96 353 310 0000	Viton	Oil Seal C98.5 x 140 x 12	-	-	~85.00
96 353 419 0000	Viton	Oil Seal A85 x 120 x 16	-	-	~60.00

PREPARED (K. SRIDHARAN)

APPROVED (S. NATARAJAN)