



Bid Number: GEM/2022/B/2689338 Dated: 31-10-2022

# **Bid Document**

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	Bid Details		
Bid End Date/Time	11-11-2022 14:00:00		
Bid Opening Date/Time	11-11-2022 14:30:00		
Bid Offer Validity (From End Date)	60 (Days)		
Ministry/State Name	Ministry Of Chemicals And Fertilizers		
Department Name	Department Of Chemicals And Petrochemicals		
Organisation Name	Hindustan Organic Chemicals Limited		
Office Name	Ambalamugal,ernakulam		
Total Quantity	1		
Item Category	P3503 H2SO4 CIRCULATION PUMP ASSEMBLY		
BOQ Title	P 3503 H2SO4 CIRCULATION PUMP		
Years of Past Experience Required for same/similar service	3 Year (s)		
MSE Exemption for Years Of Experience	Yes		
Startup Exemption for Years Of Experience	Yes		
Document required from seller	Experience Criteria, Past Performance, Certificate (Requested in ATC), OEM Authorization Certificate, Additional Doc 1 (Requested in ATC), Additional Doc 2 (Requested in ATC), Additional Doc 3 (Requested in ATC), Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer		
Past Performance	80 %		
Past Performance Bid to RA enabled	80 % No		

# EMD Detail

Required

No

## ePBG Detail

Required No

# Splitting

Bid splitting not applied.

# **MII Purchase Preference**

MII Purchase Preference	Yes

Yes

# **MSE Purchase Preference**

MSE Purchase Preference

1. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.

2. If the bidder is a Startup, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to their meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
3. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.

4. Preference to Make In India products (For bids < 200 Crore):Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. 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. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises vill be allowed to participate .In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

5. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% (Selected by Buyer)of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25%(selected by Buyer) percentage of total QUANTITY.

6. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any

impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

7. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 80% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU / Public Listed Company. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

# P3503 H2SO4 CIRCULATION PUMP ASSEMBLY

(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

Brand Type	Unbranded
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#### **Technical Specifications**

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

# **Consignees/Reporting Officer and Quantity**

S.No.	Consignee/Reporti ng Officer	Address	Quantity	Delivery Days
1	Soumya N K	682302,HINDUSTAN ORGANIC CHEMICALS LTD, AMBALAMUGAL ERNAKULAM	1	30

# **Buyer Added Bid Specific Terms and Conditions**

# 1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

# 2. Generic

After award of contract – Successful Bidder shall have to get Detailed Design Drawings approved from buyer before starting fabrication. Successful Bidder shall submit Detailed Design Drawings for Buyer's

approval, within 5 days of award of contract. Buyer shall, either approve the drawings or will provide complete list of modification required in the drawings within 5 days. Seller shall be required to ensure supply as per approved Drawings with modifications as communicated by Buyer. If there is delay from buyer side in approval of drawing- the delivery period shall be refixed without LD for the period of delay in approval of Drawing.

## 3. Generic

**Bidder financial standing:** The bidder should not be under liquidation, court receivership or similar proceedings, should not be bankrupt. Bidder to upload undertaking to this effect with bid.

#### 4. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

# 5. Generic

Bidder shall submit the following documents along with their bid for Vendor Code Creation:

- a. Copy of PAN Card.
- b. Copy of GSTIN.
- c. Copy of Cancelled Cheque.
- d. Copy of EFT Mandate duly certified by Bank.

#### 6. Generic

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

#### 7. Generic

Experience Criteria: The Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for 3 years before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the year. In case of bunch bids, the primary product having highest value should meet this criterion.

#### 8. Generic

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

#### 9. Generic

1. The Seller shall not assign the Contract in whole or part without obtaining the prior written consent of buyer.

2. The Seller shall not sub-contract the Contract in whole or part to any entity without obtaining the prior written consent of buyer.

3. The Seller shall, notwithstanding the consent and assignment/sub-contract, remain jointly and severally liable and responsible to buyer together with the assignee/ sub-contractor, for and in respect of the due performance of the Contract and the Sellers obligations there under.

#### 10. Generic

**Upload Manufacturer authorization:** Wherever Authorised Distributors are submitting the bid, Manufacturers Authorisation Form (MAF)/Certificate with OEM details such as name, designation, address, e-mail Id and Phone No. required to be furnished along with the bid.

# 11. Generic

Without prejudice to Buyer's right to price adjustment by way of discount or any other right or remedy available to Buyer, Buyer may terminate the Contract or any part thereof by a written notice to the Seller, if:

i) The Seller fails to comply with any material term of the Contract.

ii) The Seller informs Buyer of its inability to deliver the Material(s) or any part thereof within the stipulated Delivery Period or such inability otherwise becomes apparent.

iii) The Seller fails to deliver the Material(s) or any part thereof within the stipulated Delivery Period and/or to replace/rectify any rejected or defective Material(s) promptly.

iv) The Seller becomes bankrupt or goes into liquidation.

v) The Seller makes a general assignment for the benefit of creditors.

vi) A receiver is appointed for any substantial property owned by the Seller.

vii) The Seller has misrepresented to Buyer, acting on which misrepresentation Buyer has placed the Purchase Order on the Seller.

# 12. Generic

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

# 13. Scope of Supply

Scope of supply (Bid price to include all cost components) : Only supply of Goods

#### 14. Purchase Preference (Centre)

Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for percentage of 25% of total value.

#### 15. Purchase Preference (Centre)

Purchase Preference linked with Local Content (PP-LC) Policy:

The bid clause regarding "Preference to Make In India products" stands modified in this bid and shall be governed by the PPLC Policy No. FP-20013/2/2017-FP-PNG dated 17.11.2020 issued by MoP&NG as amended up to date. Accordingly, bidders with Local Content less than or equal to 20% will be treated as "Non Local Supplier". The prescribed LC shall be applicable on the date of Bid opening. Sanctions on the bidders for false / wrong declaration or not fulfilling the Local Content requirement shall be as per the PPLC policy. Further following additional provisions are added in the certification and verification of local content provision of the Preference to Make in India clause:

- i. In case of foreign bidder, certificate from the statutory auditor or cost auditor of their own office or subsidiary in India giving the percentage of local content is also acceptable. In case office or subsidiary in India does not exist or Indian office/subsidiary is not required to appoint statutory auditor or cost auditor, certificate from practicing cost accountant or practicing chartered accountant giving the percentage of local content is also acceptable.
- ii. Along with Each Invoice: The local content certificate (issued by statutory auditor on behalf of procuring company) shall be submitted along with each invoice raised. However, the % of local content may vary with each invoice while maintaining the overall % of local content for the total work/purchase of the pro-rata local content requirement. In case, it is not satisfied cumulatively in the invoices raised up to that stage, the supplier shall indicate how the local content requirement would be met in the subsequent stages.
- iii. The bidder shall submit an undertaking from the authorized signatory of bidder having the Power of

Attorney along with the bid stating the bidder meets the mandatory minimum LC requirement and such undertaking shall become a part of the contract.

# 16. Certificates

Material Test Certificate Should Be Sent Along with The Supply. The Material Will Be Checked by Buyer's Lab & the Results of the Lab will be the Sole Criteria for Acceptance of the Item.

## 17. Certificates

Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

#### 18. Certificates

The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.

#### 19. Inspection

Pre-dispatch inspection at Seller premises (Fee/Charges to be borne by the BUYER): Before dispatch, the goods will be inspected by Buyer / Consignee or their Authorized Representative or by Nominated External Inspection Agency (independently or jointly with Buyer or Consignee as decided by the Buyer) at Seller premises (or at designated place for inspection as declared / communicated by the seller) for their compliance to the contract specifications. Fee/Charges taken by the External inspection Agency and any external laboratories testing charges shall be borne by the Buyer. For in-house testing, the Sellers will provide necessary facilities free of cost. Seller shall notify the Buyer through e-mail about readiness of goods for pre-dispatch inspection and Buyer will notify the Seller about the Authorized Representative/ Nominated External Inspection Agency and the date for testing. The goods would be dispatched to consignee only after clearance in pre-dispatch inspection. Consignee's right of rejection as per GTC in respect of the goods finally received at his location shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by Buyer/ Consignee or its Nominated External Inspection Agency prior to the goods' shipment. While bidding, the sellers should take into account 7 days for inspection from the date of email offering the goods for inspection. Any delay in inspection beyond 7 days shall be on the part of the buyer and shall be regularised without Liquidated Damages.

When there is requirement of submission the advance sample, the seller shall inform the buyer promptly through emails about the date of submission of sample to the buyer nominated Inspection agency.

#### 20. Inspection

**Nominated Inspection Agency:** On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance: Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been

selected in ATC): M/s.BUREAU VERITAS (INDIA) PVT LTD

Post Receipt Inspection at consignee site before acceptance of stores: M/s.HINDUSTAN ORGANIC CHEMICALS LTD

#### 21. Past Project Experience

For fulfilling the experience criteria any one of the following documents may be considered as valid proof for meeting the experience criteria:

a. Purchase Order copy along with Invoice(s) with self-certification by the bidder that supplies against the invoices have been executed.

b. Execution certificate by client with order value.

c. Any other document in support of order execution like Third Party Inspection release note, etc.

# 22. Buyer Added Bid Specific ATC

Buyer Added text based ATC clauses

# **1.DOCUMENTS SATISFYING ELIGIBILITY CRITERIA**

2.DULY SIGNED AND STAMPED TENDER TERMS AS PER ANNEXURE- II.IF ANY DEVIATION, PL.INDICATE SEPARATELY

**3.DULY FILLED AND SIGNED COMMERCIAL TERM FORMAT AS PER ANNEXURE III-A,B,C** 

4.DULY FILLED AND SIGNED BID SECURITY DECLARATION & CLAUSE COMPLIANCE AS PER ANNEXURE -IV,V

**5.a.DOCUMENTS TO BE SUBMITTED ALONG WITH THE TECHNICAL BID:** 

I. DETAILED CATALOG AND SPECIFICATION SHEET OF THE PUMP SHALL BE SUBMITTED ALONG WITH THE TECHNICAL BID

II. DETAILED CATALOG AND SPECIFICATION SHEET OF THE MOTOR TO BE SUBMITTED ALONG WITH THE TECHNICAL BID

III. DETAILED CATALOG OF PUMP STROKE CONTROLLING PART AND SPARES REQUIRED FOR THE PUMP STROKE CONTROL PART NEED TO BE SUBMITTED ALONG WITH TECHNICAL BID

**b.CERTIFICATES TO BE PROVIDED ALONG WITH SUPPLY** 

HYDRAULIC TEST RUN CERTIFICATES, PERFORMANCE CURVES, MOTOR LOAD TEST DATA, MATERIAL TEST CERTIFICATE AND GUARANTEE CERTIFICATE.

PARTY HAS TO SUBMIT SPARE PART LIST, OPERATION AND MAINTENANCE MANUALS (MECHANICAL, ELECTRICAL AND INSTRUMENTATION), AS BUILT DRAWING AND FOUNDATION DRAWING

c.DOCUMENTS/DRAWINGS SHOULD BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE

<u>d.THIRD PARTY INSPECTION</u> : PLEASE NOTE THAT THIRD PARTY INSPECTION WILL BE APPLICABLE IN THIS PROCUREMENT. OUR APPROVED THIRD PARTY AND THEIR DETAILS ARE AS UNDER.

M/S. BUREAU VERITAS (INDIA) PVT. LTD,

JOMER SYMPHONY, D/NO. 48/1744C39

**UNIT 5, 6TH FLOOR, PONNURUNNI NORTH** 

VYTTILA P.O, KERALA - 682019.

**CONTACT PERSONS** 

1) MR. PETER PRAVEEN, EXECUTIVE

PHONE : <u>+91 9895111743</u>/53

MOB : <u>+91 9895005639</u>,

E MAIL : PETER.PRAVEEN@BUREAUVERITAS.COM

MATERIALS WILL HAVE TO BE INSPECTED AT THE VENDOR'S WORKS PRIOR TO DESPATCH AND SHALL BE DESPATCHED ONLY AFTER THE INSPECTION & APPROVAL BY THE TPI.HOWEVER THE INSPECTION CHARGES TO THE THIRD PARTY SHALL BE BORNE BY HOCL AS PER HOCL'S AGREEMENT WITH THE THIRD PARTY.

# 23. Buyer Added Bid Specific ATC

Buyer uploaded ATC document Click here to view the file.

# Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization. Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity/restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and/or terms and conditions governing the bid. Any clause incorporated by the Buyer such as demanding Tender Sample, incorporating any clause against the MSME policy and Preference to make in India Policy, mandating any Brand names or Foreign Certification, changing the default time period for Acceptance of material or payment timeline governed by OM of Department of Expenditure shall be null and void and would not be considered part of bid. Further any reference of conditions published on any external site or reference to external documents/clauses shall also be null and void. If any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations. Also, GeM does not permit collection of Tender fee / Auction fee in case of Bids / Forward Auction as the case may be. Any stipulation by the Buyer seeking payment of Tender Fee / Auction fee through ATC clauses would be treated as null and void.

This Bid is also governed by the General Terms and Conditions

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, 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. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

# ----Thank You----



# HINDUSTAN ORGANIC CHEMICALS LIMITED (A GOVERNMENT OF INDIA ENTERPRISE) AMBALAMUGAL, ERNAKULAM DISTRICT, PIN – 682 302 PHONE: (0484) 2720911

Item Number	Item Description	Qty	Unit
1	P 3503 H2SO4 Circulation pump assembly complete consisting of auto pneumatic stroke length adjustment, pulsation dampeners, motor, Coupling, base frame etc. as per the specification sheet attached.	1	NOS

# NOTE:

# a.DOCUMENTS TO BE SUBMITTED ALONG WITH THE TECHNICAL BID:

I. DETAILED CATALOG AND SPECIFICATION SHEET OF THE PUMP SHALL BE SUBMITTED ALONG WITH THE TECHNICAL BID

II. DETAILED CATALOG AND SPECIFICATION SHEET OF THE MOTOR TO BE SUBMITTED ALONG WITH THE TECHNICAL BID

III. DETAILED CATALOG OF PUMP STROKE CONTROLLING PART AND SPARES REQUIRED FOR THE PUMP STROKE CONTROL PART NEED TO BE SUBMITTED ALONG WITH TECHNICAL BID

# **b.CERTIFICATES TO BE PROVIDED ALONG WITH SUPPLY**

HYDRAULIC TEST RUN CERTIFICATES, PERFORMANCE CURVES, MOTOR LOAD TEST DATA, MATERIAL TEST CERTIFICATE AND GUARANTEE CERTIFICATE.

PARTY HAS TO SUBMIT SPARE PART LIST, OPERATION AND MAINTENANCE MANUALS (MECHANICAL, ELECTRICAL AND INSTRUMENTATION), AS BUILT DRAWING AND FOUNDATION DRAWING

# c.DOCUMENTS/DRAWINGS SHOULD BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE

<u>d.THIRD PARTY INSPECTION</u> : PLEASE NOTE THAT THIRD PARTY INSPECTION WILL BE APPLICABLE IN THIS PROCUREMENT. OUR APPROVED THIRD PARTY AND THEIR DETAILS ARE AS UNDER.

M/S. BUREAU VERITAS (INDIA) PVT. LTD, JOMER SYMPHONY, D/NO. 48/1744C39 UNIT 5, 6TH FLOOR, PONNURUNNI NORTH VYTTILA P.O, KERALA – 682019.

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SPECIFICATION OF P 3503 A & B H2SO4 CIRCUATION PUMP IS AS FOLLOWS:

#### SPECIFICATION OF P 3503 A&B H2SO4 CIRCULATION PUMP

Service: Sulfuric Acid, 98% H<sub>2</sub>SO<sub>4</sub> Type: Multiplex Head Diaphragm Metering Pump Stroke Length Adjustment - AP - Auto-Pneumatic (3-15 PSIG Signal)

Rated Capacity: 42.87 LPH for Both Head A & B Rated Pressure: 13.1 Bars for Both Head A & B

Specific Gravity: 1.825 Vapor Pressure: <0.01Kg/cm<sup>2</sup>g Viscosity: 14cP Temperature: 40°C Suction Pressure: 0 Kg/cm<sup>2</sup>g Valve type: Ball Suction size: ½" NPT Discharge Valve: ½" NPT MoC : All wetted parts shall be in SS316 Diaphragm: Teflon (Virgin)

#### MOTOR SPECIFICATION

Motor: Squirrel cage Induction Motor KW: 0.37KW Power supply: 415V,3Ph,50 Hz Speed: 1425 rpm Connection: DOL Type: Flameproof Gas Group: IIB Temp Class: T3 minimum Insulation Class: Class B or above Duty: Continuous (S1) Mounting: Horizontal foot mounting, IM1001-B3 Ingress protection: IP55 minimum Existing cable size: 1 Run, 3Cx2.5sq.mm YWY Cable entry: 1 no.3/4" ET Motor Efficiency class required: IE3 or above Ambient temperature: 40°C minimum. Motor Make: Crompton / Bharat Bijilee / Kirloskar / Siemens / ABB

Flame proof Motor shall have Type approval from IECEX/ATEX (if from European region) or ERTL/DGMS/CMFRI/PESO etc if from Indian origin.

# INSTRUMENTATION DETAILS

The details of the existing H2SO4 Circulation Pump stroke control are as follows:

Pneumatic signal 0.2 to 1 kg/cm2, connection ¼" NPT, is available at field for controlling pump stroke. Pump installed in Hazardous area, Zone1, Gr IIA,IIB.