



| Government eProcurement System | | Government eProcurement System | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|---|---|---------------|---|----------------|---|--------------|---|-----|---|------|---|----------|-------|---------------|-------------|---|-----------------------|------|---|---|-------------|------|---|
| Tender Details | | Tender Details | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | Date : 31-Jan-2020 04:26 PM | | | | | | | | | | | | | | | | | | | | | | | | |
|  Print | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basic Details | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Organisation Chain | Council of Scientific and Industrial Research CSIO-Chandigarh - CSIR Purchase-CSIO - CSIR | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Reference Number | CSIO/5(148)/2019-PUR | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tender ID | 2020_CSIR_41764_1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Type | Open Tender | Form of contract | Supply | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Category | Goods | No. of Covers | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| General Technical Evaluation Allowed | No | ItemWise Technical Evaluation Allowed | No | | | | | | | | | | | | | | | | | | | | | | | |
| Payment Mode | Offline | Is Multi Currency Allowed For BOQ | No | | | | | | | | | | | | | | | | | | | | | | | |
| Is Multi Currency Allowed For Fee | No | Allow Two Stage Bidding | No | | | | | | | | | | | | | | | | | | | | | | | |
| Payment Instruments | | Cover Details, No. Of Covers - 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Offline | <table border="1"> <thead> <tr> <th>S.No</th> <th>Instrument Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Direct Credit</td> </tr> <tr> <td>2</td> <td>Bank Guarantee</td> </tr> <tr> <td>3</td> <td>Demand Draft</td> </tr> <tr> <td>4</td> <td>FDR</td> </tr> <tr> <td>5</td> <td>NEFT</td> </tr> </tbody> </table> | S.No | Instrument Type | 1 | Direct Credit | 2 | Bank Guarantee | 3 | Demand Draft | 4 | FDR | 5 | NEFT | <table border="1"> <thead> <tr> <th>Cover No</th> <th>Cover</th> <th>Document Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Fee/PreQual/Technical</td> <td>.pdf</td> <td>PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT</td> </tr> <tr> <td>2</td> <td>Finance/BOQ</td> <td>.xls</td> <td>PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT</td> </tr> </tbody> </table> | Cover No | Cover | Document Type | Description | 1 | Fee/PreQual/Technical | .pdf | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | 2 | Finance/BOQ | .xls | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT |
| S.No | Instrument Type | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Direct Credit | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Bank Guarantee | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Demand Draft | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | FDR | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | NEFT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cover No | Cover | Document Type | Description | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Fee/PreQual/Technical | .pdf | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Finance/BOQ | .xls | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Fee Details, [Total Fee in ₹ * - 0.00] | | EMD Fee Details | | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Fee in ₹ | 0.00 | EMD Amount in ₹ | 14,000 | | | | | | | | | | | | | | | | | | | | | | | |
| Fee Payable To | Nil | EMD through BG/ST or EMD Exemption Allowed | Yes | | | | | | | | | | | | | | | | | | | | | | | |
| Tender Fee Exemption Allowed | No | EMD Fee Type | fixed | | | | | | | | | | | | | | | | | | | | | | | |
| | | EMD Payable To | DIRECTOR, CSIR-CSIO | | | | | | | | | | | | | | | | | | | | | | | |
| | | EMD Payable At | CHANDIGARH | | | | | | | | | | | | | | | | | | | | | | | |
| Work / Item(s) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Title | CSIO/5(148)/2019-PUR | | | | | | | | | | | | | | | | | | | | | | | | | |
| Work Description | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pre Qualification Details | Please refer Tender documents. | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|------------|----------------------------------|-----------------------------------|------------------------------|------------------|
| Independent External Monitor/Remarks | NA | | | | |
| Show Tender Value in Public Domain | Yes | | | | |
| Tender Value in ₹ | 0.00 | Product Category | Electronic Components And Devices | Sub category | NA |
| Contract Type | Tender | Bid Validity(Days) | 90 | Period Of Work (Days) | 45 |
| Location | CHANDIGARH | Pincode | 160030 | Pre Bid Meeting Place | NA |
| Pre Bid Meeting Address | NA | Pre Bid Meeting Date | NA | Bid Opening Place | PURCHASE SECTION |
| Should Allow NDA Tender | No | Allow Preferential Bidder | No | | |

| Critical Dates | | | | | |
|--|----------------------|--|--|----------------------|--|
| Publish Date | 31-Jan-2020 05:00 PM | | Bid Opening Date | 19-Feb-2020 03:30 PM | |
| Document Download / Sale Start Date | 31-Jan-2020 05:00 PM | | Document Download / Sale End Date | 18-Feb-2020 03:00 PM | |
| Clarification Start Date | 31-Jan-2020 05:00 PM | | Clarification End Date | 17-Feb-2020 05:00 PM | |
| Bid Submission Start Date | 31-Jan-2020 05:00 PM | | Bid Submission End Date | 18-Feb-2020 03:00 PM | |

| Tender Documents | | | | | |
|----------------------------|-------------|----------------------|---|---|------------------------------|
| NIT Document | S.No | Document Name | Description | Document Size (in KB) | |
| | 1 | Tendernotice_1.pdf | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | 6914.62 | |
| Work Item Documents | S.No | Document Type | Document Name | Description | Document Size (in KB) |
| | 1 | BOQ | BOQ_44950.xls | PLC BASED ELECTRO-PNEUMATIC TRAINER KIT AS PER ANNEXURE-A OF NIT DOCUMENT | 334.00 |

| Bid Openers List | | | |
|-------------------------|-----------------------------|-------------------------|---------------------------|
| S.No | Bid Opener Login Id | Bid Opener Name | Certificate Name |
| 1. | ramesh.eproc@csir.res.in | Ramesh Kumar | RAMESH KUMAR |
| 2. | satya.eproc@csir.res.in | Satya Prakash Prabhakar | SATYA PRAKASH PRABHAKAR |
| 3. | bhatnagar.eproc@csir.res.in | Brijender Bhatnagar | BRIJENDER KUMAR BHATNAGAR |
| 4. | madan.eproc@csir.res.in | Madan Sharma | MADAN SHARMA |

| Tender Inviting Authority | |
|----------------------------------|-----------------------------------|
| Name | CONTROLLER OF STORES AND PURCHASE |
| Address | CSIR-CSIO, SECTOR-30, CHANDIGARH |

| Tender Creator Details | |
|-------------------------------|----------------------|
| Created By | Brijender Bhatnagar |
| Designation | SO |
| Created Date | 31-Jan-2020 04:21 PM |



स्पीड पोस्ट/पंजीकृत डाक

सीईएसआईआर - केन्द्रीय वैज्ञानिक उपकरण संगठन
CSIR-Central Scientific Instruments Organisation
सैक्टर 30 सी चंडीगढ़ Sector-30C, Chandigarh 160 030

| | | | |
|---|---------------------------|---|-----------------------|
| निविदा संख्या / Tender No. | CSIO/5(148)/2019-Pur | दिनांक / Issue Date: | 30-01-2020 |
| निविदा प्राप्त का अंतिम समय एवं दिनांक / Date & time of receipt of tender | 18-02-2020, 3.00 P.M. तक। | निविदा खोलने का समय एवं दिनांक / Date & time of opening of Tender | 19-02-2020, 3.30 P.M. |

E-Tender with EMD

महोदय,

हम निम्नानुसार उपस्कर/सामग्री खरीदने के इच्छुक हैं। कृपया अपनी कोटेशन निदेशक, सी.एस.आई.ओ. के नाम ई-टेंडर द्वारा भेजें। जिसे निरधारित समय पर आपूर्तिकर्ताओं के प्रतिनिधियों (जो भी सवेच्छा से उपस्थित हों) के समक्ष खोला जाएगा।

We are interest to purchase the below given/attached items. Kindly send your Tender/Quotation/Proforma Invoice through E-Tender mode only. Tenders/quotation will be opened in the presence of supplier's representatives who wish to present themselves at that time.

| क्र. सं. | सामग्री का विवरण | मात्रा | बिड टाईप |
|----------|---|--------|----------------------------------|
| 1. | PLC based Electro-Pneumatic Trainer Kit Detailed specifications as per attached "Annexure-A" | One | Two Bid (EMD of Rs. 14000.00) |

Note:-

1. Please carefully refer all the T&C before submission of Tender to avoid rejection.
2. Bidder who doesn't manufacture the goods it offers to supply shall submit Manufacturer's Authorization Form (MAF) using the form specified in the bidding document to demonstrate that it has been duly authorized by the manufacturer of the goods to quote and/or supply the goods, failing which offer will not be considered/rejected.
3. Two Bid Type – Please upload your Technical and Financial Bid separately on CPPP Portal. For Financial Bid, please fill BOQ. The tender through e-mail, Fax and hard copies will not be considered.
4. The EMD either may be submitted in CSIO's SB Account No. 30267029400 (State Bank of India, Sector-30, Chandigarh) and the proof should be enclosed with the offer or by DD/BG/FDR. The DD/BG/FDR in favour of Director, CSIR-CSIO, Chandigarh in **original should reach us before Opening date of Tender.**

Tender has been issued on www.etenders.gov.in. Prospective bidders are requested to registered themselves at www.etenders.gov.in for future also and have to quote through E-Tender mode only. (No hard copy will be entertained) for Financial bid please fill BOQ.

भवदीय (Regards)

मोहिन्द्र कुमार (Mohinder Kumar)

भण्डार एवं क्रय नियंत्रक (Controller of Stores and Purchase)

For & on behalf of CSIR-CSIO

वेबसाईट: www.csio.res.in ई-मेल: cosp@csio.res.in, spo@csio.res.in फोन: 91-172-2652651, फैक्स: 91-172-2652651

TERMS & CONDITIONS

1. The quotation/tender must be in the form furnished by the Purchaser/as per tender specifications and should be free from corrections/erasures. In case there is any unavoidable correction it should be properly attested. If not the quotation will not be considered. **Hand written Quotations will not be considered.**
- (a) Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. **such offer shall be rejected as incomplete. As such clearly mention these charges.**
- (b) The bidder should give a clear cut break up of ex-works, FOB/FCA, CIF/CIP price to facilitate the proper comparison **failing which the bid would be summarily ignored/rejected.** CSIR reserves the right to order on the basis of any of the incoterms. The Exchange selling rates will be taken from www.xe.com.
- (c) The gross weight of the consignment may be intimated in the Quotation/Tender/Proforma Invoice to decide the mode of dispatch.
2. **The E-Tenders will be accepted through online only. The tender received in any other mode or physical tender will not be accepted and will be ignored. This is not applicable for E-Publish Tender Notice.**
3. It may kindly be noted that your bid should
 - A) Be in **single part. (single part / two part bidding) (retain one only)**
 - B) Accompany Bid Security (EMD)/5F (Annexure) of Rs..... **(retain only if applicable)**
 - C) on the event of award of Contract in your favour, you need to submit a Performance Bank Guarantee for 10% of order value valid for a period of 2 Months beyond the Warranty period of..... **(retain only, if applicable)**
4. Each quotation/Tender in case of E-Publish Tender sent by post is to be enclosed in double cover addressed to **The Director, CSIO, Sector-30, Chandigarh-160 030.** Quotations delivered personally should be put in the tender box kept in the office of Stores & Purchase Officer. The late/delayed and unsigned quote will not be considered at all.
5. The acceptance of the quotation will rest with the competent authority of **Central Scientific Instruments Organization, Sector-30, Chandigarh** who does not bind himself to accept the lowest quotation and reserves the right to himself to reject, or partially accept any or all the quotations received without assigning any reason.
6. **Price & Validity:** Price quoted should be net (separately mention required charges as Sr.No. 1(a,b) above) and valid for a minimum period of **90 days** from the date of opening of the quotation, **failing which the offer will be ignored/rejected.**
7. The bidder must submit the applicable Price Schedule Form as Annexed to the tender document available on the website.
8. Complete specification with manufacturer's name and address should be given while quoting. Literature/Pamphlets should also be enclosed wherever applicable.
9. Prices are required to be quoted in units indicated in the enquiry. When quotations are given in terms of other units, relationship between two sets of units should be furnished. Quantity discounts, if any should also be indicated. The items should be quoted indicating the serial No. of our RFQ.
10. In cases of agents quoting on behalf of their foreign manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. **One manufacturer can also authorize only one agent/dealer.** There can be only one bid from the following:
 1. The foreign manufacturer directly or through one Indian agent on his behalf; or
 2. Indian/foreign agent on behalf of only one principal.
11. Please indicate the name and address of the agents in India if any, the details of service to be rendered by them & the percentage of commission payable to them. Agency commission payable to the Indian Agent should be clearly indicated. The Agency commission would be payable only in Indian Rupees after acceptance. Further an Indian Agent cannot quote on behalf of two different foreign suppliers. If they submit two offers on behalf of two different foreign suppliers, **their offers may not be considered. If the offer is submitted by the Authorised Dealer/Agent/Distributors, it should be along with Authorization Certificate, failing which the offer will be ignored/rejected.** The offer submitted through authorization on behalf of the principal, the terms & conditions settled by the Agent with buyer will be binding on their principal.
12. **Taxes as are applicable should be indicated clearly failing which the offer shall not be considered and rejected.** This lab/Instt is registered with Dept. of Scientific & Industrial Research, Govt. of India and concessional customs duty and GST & IGST are leviable vide notification no. Custom Duty under Govt. Notification No. 51/96-Custom dated 23.07.1996 and No. 43/2007-Customs dated 30.06.2017 and Govt. Notification No. 45/2017-Central Tax (rate) & No. 45/2017-Integrated Tax (rate) dated 14.11.2017. Only basic duty is applicable under this notification, hence bidders will have to submit their offer accordingly. We are exempted from payment of Customs Duty under notification No.51/96 dated 23.07.1996. Hence IGST and Customs Duty, if any, should be shown separately. No other charges than those mentioned clearly in the quotation will be paid
13. The mode of dispatch/transportation of the items must be by **Air/Sea/Rail/Road only. (Retain one only).**
14. In case the items in the enquiry are covered by any rate contract or running contract finalised by any other state or central Government, it should be specified in your quotation and accepted contract rates should also be mentioned.
15. **Delivery period** required for supplying the material should be invariably specified in the quotation. The offered delivery period shall have to be strictly adhered to in case an order is placed.

Continue on next page.....

16. **Liquidated Damages Clause for delays:** The applicable rate is 0.5% per week and maximum deduction is 10% of the contract price.
 17. If the deliveries are not maintained and due to that account the purchaser is forced to buy the material at your risk and cost from elsewhere, the loss or damage that may be sustained there by will be recovered from the defaulting supplier.
 18. All supplies are subject to inspection and approval before acceptance. Manufacturer warranty certificates and manufacturer/Government approved lab test certificate shall be furnished along with the supply, wherever applicable. Please mention the warranty period of equipment, which should be from the date of satisfactory installation. **The offer received for lesser warranty, as asked for in the tender, will be rejected/ignored.**
 19. TDS would be recovered as per rules in case of Fabrication/ Servicing/ Maintenance jobs/Installation charges etc.
 20. Kindly furnish your PAN & GST Number etc. in your quotation for our records. Our GST No. is 04AAATC2716R1ZN
 21. Our normal payment terms are 100% (hundred percent) within 30 (thirty) days on receipt and acceptance of material at our site in good condition. Please inform your Bank details for RTGS payment. Banking details should be available on Bill/invoice.
 22. **Reasonability of Prices/Fall Clause**
 - i) Please quote best minimum prices applicable for a premiere Research Institution, leaving no scope for any further negotiations on prices.
 - ii) The quoting party should give a certificate to the effect that the quoted prices are the minimum and they have not quoted the same item on lesser rates than those being offered to CSIO to any other customer nor they will do so till the validity of offer or execution of the purchase order, whichever is later.
 - iii) Copies of at least two recently supplied orders of the last two years received from other customers along with details of such supply orders preferably in India for the same item/model may be submitted with the offer giving reasons of price difference of their supply order & those quoted to us, if any. The party must give details of identical or similar equipment, if any, supplied to any CSIR lab during the last three years along with the final price paid and Performance certificate from them.
 23. **Installation/commissioning:** Equipment/Instruments are required to be commissioned/installed/demonstrated successfully immediately or within 30 days from the date of receipt of the system in CSIO by the Principal or by their authorized Agent, **failing which the Liquidated Damage Clause will be applicable as mentioned above.**
 24. Certificate of undertaking that the equipment is of latest technology & will not be obsolete within 5 years after warranty will be attached with the offer. All essential spares parts of the offered equipment will available with the manufacturer or in India with your Indian Agents for a period of at least 5-7 years after warranty period which will be required at later stage
 25. MSME benefits will be given to the eligible supplier as per the Govt. guidelines subject to submission of proper document as per policy or Udyog Adhar Udyog Memorandum in respective category
 26. Code of Integrity has to be maintained by Bidders/Suppliers/Contractors by maintaining highest standards of ethics in the Procurement process and prohibits corrupt practice/Fraudulent practice/Anti- Competitive practice / Coercive Practice/ Conflict of Interest and Obstructive practice either directly or indirectly during the process of contract.
 27. All disputes shall be settled in the courts of **Chandigarh Jurisdiction** only.
 28. Tender conditions (printed on the reverse), if any, or otherwise sent along with the tender shall not be binding on us.
 29. All the above instructions and our standard terms and conditions must be complied failing which your offer may be liable for rejection.
 30. As per Govt. of India procurement policies (under Make in India (MII)
 - a. The purchaser intends to give purchase preference to local suppliers* in case the cost of procurement is in the range of more than Rs 5.00 lakhs and up to Rs. 50.00 lakhs.
 - b. The eligibility of the supplier is restricted to Indian Suppliers or there is no restriction on the eligibility of the suppliers. **(retain any one only)**
 - c. The procuring entity intends to give purchase preference to products/goods manufactured by micro, small and medium enterprises.
- *"Local supplier" means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed in DIPP Order No.P-45021/2/2017-PP (BE-II) dated 28th May, 2018 or by the competent Ministries/Departments in pursuance of this order.
- 'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the items procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
31. Instructions to Bidders, General Conditions of Contract applicable to limited tenders originating from S&P Division along with different formats can be viewed on our website www.csio.res.in under the heading tenders.

Yours faithfully,

CO&P SPO

For & on behalf of CSIR-CSIO.

Bid-Securing Declaration Form

(Refer para 5.1.2 (ix)(d) & 6.1.1 (02) of the CSIR Manual)

Date: _____

Bid No. _____

To

Director,
CSIR-CSIO,
Sector-30, Chandigarh.

I/We. The undersigned, declare that:

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

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

have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or

having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

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

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

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

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

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

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

Annexure-“A”

PLC Based Electro-Pneumatic Trainer kit

1. The Pneumatic kit shall be of sleek design and portable one with wheels.
2. This unit is to be provided with standard Aluminum based mounting board (modular type) so as to make the pick & place of components easier.
3. All the products are to be provided with suitable “one touch fittings / Push-in fittings”.
4. All the components used shall be of reputed make like Festo / Janatics / Rexroth or any other reputed make.
5. Vendor has to specify the make with catalogue and authorization letter from these companies.
6. Hard copy & soft copy of the Training Manual to be provided along with the Trainer kit.
7. Trainer kit to be assembled on site & installed at the appropriate place.
8. Training on the kit to be provided after successful installation of the Trainer kit.
9. One year of Comprehensive Warranty on all the components of the Trainer kit.

Electro-pneumatic Trainer Kit Specifications

| PLC Based Electro-Pneumatic Trainer kit | | | |
|---|---|--|--------|
| 1.1 | Pressure gauge | | 2 nos. |
| | a. Pressure range 0 - 10 bar | | |
| | b. Mounting – Push to lock / Unlock mechanism | | |
| 1.2 | One Way Flow control valve | | 8 nos. |
| | a. Material – Plastic body | | |
| | b. Size – Diameter 4 mm | | |
| | c. Type – Inline | | |
| | d. Pressure range – 1 to 10 bar | | |
| | e. Mounting – Push to lock / Unlock mechanism | | |
| 1.3 | Shuttle Valve (OR valve) | | 2 nos. |
| | a. Material – Aluminium machined, Anodized finish | | |
| | b. Size – 1 / 8" | | |
| | c. Flow rate – 400 l / min | | |
| | d. Pressure Range – 1.5 to 10 bar | | |
| | e. Mounting – Push to lock / Unlock mechanism | | |
| 1.4 | Dual pressure valve (AND valve) | | 2 nos. |
| | a. Material – Aluminium machined, Anodized finish | | |
| | b. Size – 1 / 8" | | |
| | c. Flow rate – 400 l / min | | |
| | d. Pressure Range – 1.5 to 10 bar | | |
| | e. Mounting – Push to lock / Unlock mechanism | | |
| 1.5 | Quick exhaust valve for operation of DAC | | 4 nos. |
| | a. Material – Aluminium machined, Anodized finish | | |
| | b. Size – 1 / 8" | | |
| | c. Pressure Range – 1 to 10 bar | | |
| 1.6 | Push Button (Green) Operated DCV | | 4 nos. |
| | a. Material – Extruded Aluminium with anodized finish | | |
| | b. Push button – Flush head type | | |
| | c. Design – Spool type | | |
| | d. Size – 1 / 8" | | |
| | e. Type – 3/2 Normally closed | | |

| | | | |
|-------------|--|---|---------------|
| | | f. Flow rate – 450 l/min | |
| | | g. Working pressure range – 1 – 8 bar | |
| | | h. Mounting – Push to lock / Unlock mechanism | |
| 1.7 | | 3/2 NC Roller lever DCV (Pneumatic limit switch – for Forwarding) – single cycle & multi cycle automation of SAC | 2 nos. |
| | | a. Material – Aluminium machined, Anodized finish | |
| | | b. Size – M5 | |
| | | c. Type – 3/2 Normally closed | |
| | | d. Maximum pressure – 10 bar | |
| | | e. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.8 | | 3/2 NC Roller lever DCV (Pneumatic limit switch – for Reversing) – single cycle & multi cycle automation of DAC | 2 nos. |
| | | a. Material – Aluminium machined, Anodized finish | |
| | | b. Size – M5 | |
| | | c. Type – 3/2 Normally closed | |
| | | d. Maximum pressure – 10 bar | |
| | | e. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.9 | | 3/2 NC single external pilot operated DCV with spring return | 4 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Pressure range – 2 – 10 bar | |
| | | e. Flow rate – 450 l / min | |
| | | f. Mounting – Push to lock / Unlock mechanism | |
| 1.10 | | 5/2 Hand lever with spring return DCV– for direct operation of a SAC & DAC | 2 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Pressure range – 2 – 10 bar | |
| | | e. Flow rate – 450 l / min | |
| | | f. Mounting – Push to lock / Unlock mechanism | |
| 1.11 | | 5/2 Single solenoid operated DCV with spring Return | 2 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Operating voltage – 24V DC | |
| | | d. Design – Spool type | |
| | | e. Pressure range – 2 – 10 bar | |
| | | f. Flow rate – 450 l / min | |
| | | g. Mounting – Push to lock / Unlock mechanism | |
| 1.12 | | 5/2 Double solenoid operated DCV (With LED) | 4 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Operating voltage – 24V DC | |
| | | d. Design – Spool type | |
| | | e. Pressure range – 2 – 10 bar | |
| | | f. Flow rate – 450 l / min | |
| | | g. Mounting – Push to lock / Unlock mechanism | |
| 1.13 | | 5/2 External Pilot Operated DCV with spring return | 2 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Pressure range – 2 – 10 bar | |

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| | | e. Flow rate – 450 l / min | |
| | | f. Mounting – Push to lock / Unlock mechanism | |
| 1.14 | 5/2 Double external pilot operated DCV (Memory Valve) | | 2 nos. |
| | | a. Material – Extruded Aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Pressure range – 2 – 10 bar | |
| | | e. Flow rate – 450 l / min | |
| | | f. Mounting – Push to lock / Unlock mechanism | |
| 1.15 | 5/3 Double Solenoid pilot operated DCV with spring centered (all ports blocked) | | 2 nos. |
| | | a. Material – Extruded aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Type – All ports blocked | |
| | | e. Pressure range – 2 – 10 bar | |
| | | f. Flow rate – 450 l / min | |
| | | g. Mounting – Push to lock / Unlock mechanism | |
| 1.16 | 5/3 Double external pilot operated DCV with spring centered | | 2 nos. |
| | | a. Material – Extruded aluminium, with anodized finish | |
| | | b. Size – 1 / 8" | |
| | | c. Design – Spool type | |
| | | d. Type – All ports blocked | |
| | | e. Pressure range – 2 – 10 bar | |
| | | f. Flow rate – 450 l / min | |
| | | g. Mounting – Push to lock / Unlock mechanism | |
| 1.17 | Inductive proximity sensor assembly | | 4 nos. |
| | | a. Operating voltage - 24 VDC | |
| | | b. Operating distance - 5mm ± 10% | |
| | | c. Connector Type - 3pin male QD connector | |
| | | d. Sensor type - Flush head type | |
| | | e. Mounting - Turn to Lock / Unlock | |
| 1.18 | Capacitive proximity sensor assembly | | 4 nos. |
| | | a. Operating voltage - 24 VDC | |
| | | b. Operating distance - 8mm ± 10% | |
| | | c. Connector Type - 3pin male QD connector | |
| | | d. Sensor type - Flush head type | |
| | | e. Mounting - Turn to Lock / Unlock | |
| 1.19 | Optical proximity sensor assembly | | 2 nos. |
| | | a. Operating voltage - 24 VDC | |
| | | b. Operating distance - 260mm ± 10% | |
| | | c. Connector Type - 3pin male QD connector | |
| | | d. Sensor type –Light sensing type | |
| | | e. Mounting - Turn to Lock / Unlock | |
| 1.20 | Magnetic sensor with clamp for mounting on to the Cylinders | | 4 nos. |
| | | a. Type - Solid state output -PNP | |
| | | b. Connection – M8 male QD connector | |
| | | c. Operating voltage – 24V DC | |
| | | d. Mounting – Clamping type | |
| 1.21 | Single acting cylinder(SAC) | | 4 nos. |
| | | a. Material – SS barrel | |

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| | b. Size – 25 dia | |
| | c. Stroke – 50 mm | |
| | d. Type – Miniature cylinder (magnetic) | |
| | e. Maximum pressure – 10 bar | |
| | f. End cushioning: Fixed end cushioning | |
| | g. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.22 | Double Acting Cylinder (DAC) | 4 nos. |
| | a. Material – SS barrel | |
| | b. Size – 25 dia | |
| | c. Stroke – 100 mm | |
| | d. Type – Miniature cylinder (Magnetic) | |
| | e. Maximum pressure – 10 bar | |
| | f. End cushioning: Adjustable end cushioning | |
| | g. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.23 | Junction Box with slide valve | 2 nos. |
| | a. Junction box fitted with 3/2 slide valve & 7 nos of self sealing fittings of 4 mm dia | |
| | b. Max. Working pressure – 10 bar | |
| | c. Junction box Material – Aluminium | |
| | d. Mounting – Push to lock / Unlock mechanism | |
| 1.24 | Electrical limit switch (Forwarding) | 2 nos. |
| | a. Type – Roller operated | |
| | b. Output – Potential free contacts (SPDT) | |
| | c. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.25 | Electrical limit switch (Reversing) | 2 nos. |
| | a. Type – Roller operated | |
| | b. Output – Potential free contacts (SPDT) | |
| | c. Mounting – Turn to lock / Unlock mechanism with slot stone indicator knob | |
| 1.26 | Pressure sensor | 2 nos. |
| | a. Size – 1/8 | |
| | b. Type – Electrically operated | |
| | c. Minimum & Maximum pressure – 0 - 10 bar | |
| | d. Operating voltage – 24V DC | |
| | e. Inlet – $\varnothing 4$ | |
| | f. Output – 1 digital output and 1 Analog output – 4-20mA | |
| | g. Mounting - Press to lock / Unlock | |
| 1.27 | One touch fittings | 1 nos. |
| | a. Union T fitting & Union Y fitting: – Each 10 nos | |
| | b. Size – Suitable for tubes with 4 dia Outer Diameter | |
| | c. Material – Plastic body | |
| | d. Maximum pressure – 10 bar | |
| 1.28 | $\varnothing 8$ mm Polyurethane tube | 5 Mtrs |
| | a. Material – Polyurethane | |
| | b. Size – 8 dia Outer Diameter | |
| | c. Maximum pressure – 10 bar | |
| 1.29 | $\varnothing 4$ mm Polyurethane tube | 10 Mtrs |
| | a. Material – Polyurethane | |
| | b. Size – 4 dia Outer Diameter | |
| | c. Maximum pressure – 10 bar | |
| 1.30 | PLC Specifications | 1 no. |
| | a. Operating voltage - 24V DC | |

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| | b. PLC type – Allen Bradley/ Omron or reputed make with DI:18, DO:12 | |
| | c. Programming cable port – RJ45 and On Board programming is a must | |
| | d. Digital input connection - 18 | |
| | e. Digital output connection - 12 | |
| | f. Programming: On board as well as through computer | |
| | g. Mounting - Press to Lock / Unlock | |
| 1.31 | Pneumatic Time Delay Valve | 2 nos. |
| | a. Operation - Time delay (2 – 30s) | |
| | b. Size – M5 | |
| | c. Type - Spring return | |
| | d. Minimum & Maximum pressure – 2 - 6 bar | |
| | e. Inlet / Outlet – \varnothing 4 | |
| | f. Mounting - Press to lock / Unlock | |
| 1.32 | Pressure sequence valve | 2 nos. |
| | a. Type - Direct operated poppet type | |
| | b. Flow rate - 70 lts / min @6bar | |
| | c. Pressure range - 2 - 8 bar | |
| | d. Inlet / Outlet – \varnothing 4 | |
| | e. Mounting - Press to lock / Unlock | |
| 1.33 | Non return valve (Check Valve) | 4 nos. |
| | a. Inlet/Outlet – 4 dia | |
| | b. Maximum pressure – 10 bar | |
| | c. Mounting – Push to lock / Unlock mechanism | |
| 1.34 | Vertical work bench | 1 nos. |
| | a. Size (L x W x H) – (1200 x 900 x 1750) mm maximum | |
| | b. Profile groove width – 8.3 mm | |
| | c. Groove to groove distance – 40 mm | |
| | d. Leveling casters for quick setting and smooth movement | |
| | e. Draw unit for storing the components – 2nos | |
| | f. Effective work area per side on the Frame unit – 1000 mm x 640 mm | |
| | g. Material – Aluminium, steel, and Wood | |
| 1.35 | Relay Logic Unit - 4C/O - 3 Relays | 4 nos. |
| | a. Operating voltage - 24 VDC | |
| | b. Operation - NO / NC type | |
| | c. Type - 4-Change over , 3 relays | |
| | d. Mounting - Press to Lock / Unlock | |
| 1.36 | Switch mode power supply (SMPS) | 1 nos. |
| | a. Input voltage – 230V AC 50 HZ | |
| | b. Output voltage – 24V DC | |
| | c. Output current rating – 3 amps | |
| | d. Input connection – 3 pin power chord 1m length | |
| | e. Output connection – 4mm banana socket, Red - Positive, Black - Negative | |
| 1.37 | Electrical push button module | 4 nos. |
| | a. Operating voltage - 24V DC | |
| | b. Type - NO / NC type with LED indicator | |
| | c. LED operating voltage 24V DC | |
| | d. Spring return - Green color button | |
| | e. Detent - Red color button | |
| | f. Mounting - Press to Lock / Unlock | |

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| 1.38 | Electrical Connection set | 2 nos. |
| | a. Connector type – 4mm banana plug | |
| | b. Cable colors – Red and black | |
| 1.39 | Filter Regulator Combination with Lubricator (FRL Unit) with pressure gauge | 2 nos. |
| | a. Port size -1/4 inch | |
| | b. Flow rate – 500 l/min | |
| | c. Maximum supply pressure – 10 bar | |
| | d. Filtration – 40 micron | |
| | e. Minimum operating flow – 12 l/min | |
| | f. Filter Bowl capacity – 9 ml | |
| | g. Lubricator Bowl capacity – 20 ml | |
| | h. Connection for tube 8 dia input and 8 dia output | |
| | i. Mounting – Push to lock / Unlock mechanism | |
| 1.40 | Anti-ram valve | 1 nos. |
| | a. Type – Proportional Pressure control | |
| | b. Pressure range - 0.5 -10 bar | |
| | c. Tubing Connection - Inlet / outlet ϕ 4 | |
| | d. Mounting - Press to Lock/Unlock | |
| 1.41 | Back pressure valve | 1 nos. |
| | a. Port size - M5 | |
| | b. Type – NO (Normally open) | |
| | c. Mode of actuation – Air operated | |
| | d. Pressure range - 2 - 6 bar | |
| | e. Tubing Connection * - Inlet / outlet ϕ 4 | |
| 1.42 | Air Compressor & accessories | 1 nos. |
| | a. Maximum pressure @ 8 bar | |
| | b. Minimum suction flow 50 lpm | |
| | c. Min receiver of 20 Litres | |