TENDER DOCUMENTS

Mech Lab Equipment

NUTECH / SCM / Mechanical Lab Phase-lll (B)-2019 / TD-092

NATIONAL UNIVERSITY OF TECHNOLOGY

TENDER NOTICE

National University of Technology (NUTECH)

NUTECH / SCM / Mechanical Lab Phase-III (B)-2019 / TD-092

Sealed bids are invited from Government / FBR Registered Firms for the procurement of **Mechanical Laboratory Equipment** for NUTECH.

1. Tender documents containing terms, conditions and detailed specifications of items (including draft contract) can be downloaded from NUTECH website "https://nutech.edu.pk" w.e.f 17 **Oct 2019**.
2. Quotations shall be submitted as per requirement of the tender documents.
3. Bidders will be required to submit **Bank Draft / CDR** equal to **5%** of quoted value as Bid Bond in favor of National University of Technology (NUTECH).
4. Sealed bids with detailed specifications should reach on the following address latest by **1030 hours on 5 Nov 2019.** Late submission will not be entertained.
5. Bids will be opened at **1100 hours** on **5 Nov 2019 at** SCM Office.
6. Project is to be completed in **90 days** from the date of award of contract.
7. Submit Rs 1500/- as Tender fee in favor of NUTECH HBL Account (**NUTECH Tendering and Contracts, 5037-7000210755).** Please attach bank receipt with technical offer. Offers will not be entertained without payment of processing fee.

Deputy Director (Supply Chain Management)

NATIONAL UNIVERSITY OF TECHNOLOGY, IJP ROAD, I-12, ISLAMABAD

Tel: 0092-51-5476768, Ext: 178

NATIONAL UNIVERSITY OF TECHNOLOGY

SUPPLY CHAIN MANAGEMENT

INVITATION TO TENDER

1. NUTECH desires to procure the list of item(s) / Store(s) as per **Annexure-A**. Interested bidders are requested to send their bids through courier or deliver at NUTECH under "Single Stage – Two Envelopes" (two envelopes placed together in third envelope), marked clearly as **"Technical Offer"** and **"Commercial Offer"** respectively to the undersigned, latest by or before above mentioned due date. If due to any unforeseen circumstances, NUTECH establishment is close on given date, then the last date of submission will be extended to next working day.

2. Please also note that Technical Offer should contain only Annexes-A & B duly filled in (supported with relevant technical literature / details / catalogues etc) and receipt of tender processing fee. Commercial Offer will contain Annexure-C and bid bond (Dully mentioned and placed in separate envelope). Please ensure no space is left blank in the annexes.

3. Following must be noted :-

   a. 4 x copies of technical offer are to be provided.

   b. Annexes A, B and C must be signed and stamped. Attach only relevant documents.

   c. Complete all document as per given format. Do not use your format or letter head. Offer may be rejected if given format is not followed.

   d. Validity of offer will be for **90 days**.

   e. Delivery period will be **90 days** from the date of award of contract.

   f. The firm should provide point to point acceptance of each clause of IT and special instructions attached with IT.

   g. Firm will render a certificate with technical offer that firm is neither defaulter nor blacklisted by any Government / semi Government organization directly or indirectly.

   h. Commercial Offer must be accompanied with a Bid Bond in agreement of faithful compliance of the conditions of Contract / Purchase Order. This amount will be equivalent to 5% of the total quoted value. In case of non-acceptance of any offer, the Bid Bond will be returned to the bidder by fastest possible means. The Bid Bond amount submitted by the successful bidder will however be refunded on effective termination

of Contract / Purchase Order. (The Bid Bond will be forfeited in case of default by the bidder from his commitments made through his offer). Submission of Bid Bond is mandatory; otherwise your offer will be rejected.

i. Rates should be quoted on Free Delivery basis at NUTECH Islamabad.

j. Commercial Offer must be accompanied with a Bid Bond in agreement of faithful compliance of the conditions of Contract/Purchase Order. This amount will be equivalent to 5% of the total quoted value. In case of non-acceptance of any offer, the Bid Bond will be returned to the bidder by fastest possible means. The Bid Bond amount submitted by the successful bidder will however be refunded on effective termination of Contract/ Purchase Order. (The Bid Bond will be forfeited in case of default by the bidder from his commitments made through his offer). Submission of Bid Bond is mandatory; otherwise your offer will be rejected.

k. Rates should be quoted on Free Delivery basis at NUTECH Islamabad.

l. Bid Bond may be used as performance guarantee till the delivery of stores, otherwise separate performance guarantee valued at 5 % of contract will be submitted by successful firm till stores are delivered and inspected.

m. The stipulated delivery period should be strictly adhered to. Any anticipated delay that is beyond the control of Seller will be informed (in writing) well in advance of the expiry of the due date of the activity along with reasons thereof, requesting for the grant of extension in delivery period. If the Seller fails to do so, or the Buyer is not convinced with the rationale provided by the Seller, Liquidated Damages up to/at 2% per month or part thereof, will be imposed. However, the maximum limit of the Liquidated Damages will not exceed 10% of the contract value, in any way.

n. If even after applicability of 10% LD, the Seller fails to deliver the required stores, the Buyer will be at liberty to procure the stores from an alternate source, on the Seller's "Risk & Cost". In that case, the Seller will be bound to make payment to the new source through

NUTECH.

o. NUTECH reserves the right to cancel the Contract without assigning any reason whatsoever during its currency / execution / after placement, if the firm is found to be involved in any dubious activity, litigation, lacking to meet contractual obligations with the purchaser or is blacklisted with any other Public procurement agency. No claims / loss /damage of whatsoever nature shall be entertained and NUTECH's decision in this regard will be final and binding on the Supplier / Seller.

p. An appropriate amount may be paid for mobilization against Bank Guarantee/CDR/Demand Draft/Pay Order.

q. Partial payment/partial delivery allowed

4. NUTECH reserves the rights to accept or reject any or all tenders as a whole or in part without assigning any reason whatsoever. The decision in this regard will be firm, final and binding on all bidders.

DD (Supply Chain Management)

Annex-A

Technical Specifications

NUTECH / SCM / Mechanical Lab Phase-lll (B)-2019 / TD-092

Ser	Part No	Items	Description	A/U	Country of Origin	Qty Req	Bidder Compliance			Tech Scrutiny to be done by user	
							Yes	No	Alternate	Accepted	Rejected
										Reason of Rejection	
1		Internal Gear Pump (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the pump components, and flow paths using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘A’	No	Any	1					
2		External Gear Pump (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the pump components, and flow paths using contrast colors • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘B’	No	Any	1					
3		Vane Pump (Cutaway Model)	• Sectioning of actual hardware.	No	Any	1					

			• Color-coding of the pump components and flow paths using contrast colors • Minimum dia 2.5” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high Pic attached at Annex ‘C’							
4		Ball Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘D’	No	Any	1				
5		Gate Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘E’	No	Any	1				
6		Globe Valve (Cutaway Model)	• Sectioning of actual hardware.	No	Any	1				

			• Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘F’							
7		Butterfly Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘G’	No	Any	1				
8		Ball Check Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘H’	No	Any	1				

9		Spring Safety Valve(Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘I’	No	Any	1				
10		Cutaway Model: Worm Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘J’	No	Any	1				
11		Cutaway Model: Spur Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘K’	No	Any	1				
12		Cutaway Model: Planetary Gear	• Sectioning of actual hardware.	No	Any	1				

			• Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'L'							
13		Cutaway Model: Control Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'M'	No	Any	1				
14		Cutaway Model: Pedestal Bearing	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'N'	No	Any	1				
15		Cutaway Model: Miter Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors.	No	Any	1				

			• Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'O'							
16		Cutaway Model: two-Stage Spur Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'P'	No	Any	1				
17		Cutaway Model: Variable Speed Belt Drive	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'Q'	No	Any	1				
18		Cutaway Models: Multiple-Disc Clutch	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'R'	No	Any	1				

19		Belt Friction Apparatus	Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'S'	No	Any	1				
20		Cutaway model: strainer	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'T'	No	Any	1				
21		Cutaway Model: Pressure Gauges	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'U'	No	Any	1				
22		Cutaway Model: Changeover Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or	No	Any	1				

			metal approximately 4-6 inches high. Pic attached at Annex 'V'							
23		Cutaway Model: Back Flow Preventer	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'W'	No	Any	1				
24		Cutaway Model: Screw Down Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'X'	No	Any	1				
25		Cutaway Model: Non-Return Butterfly Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2"	No	Any	1				

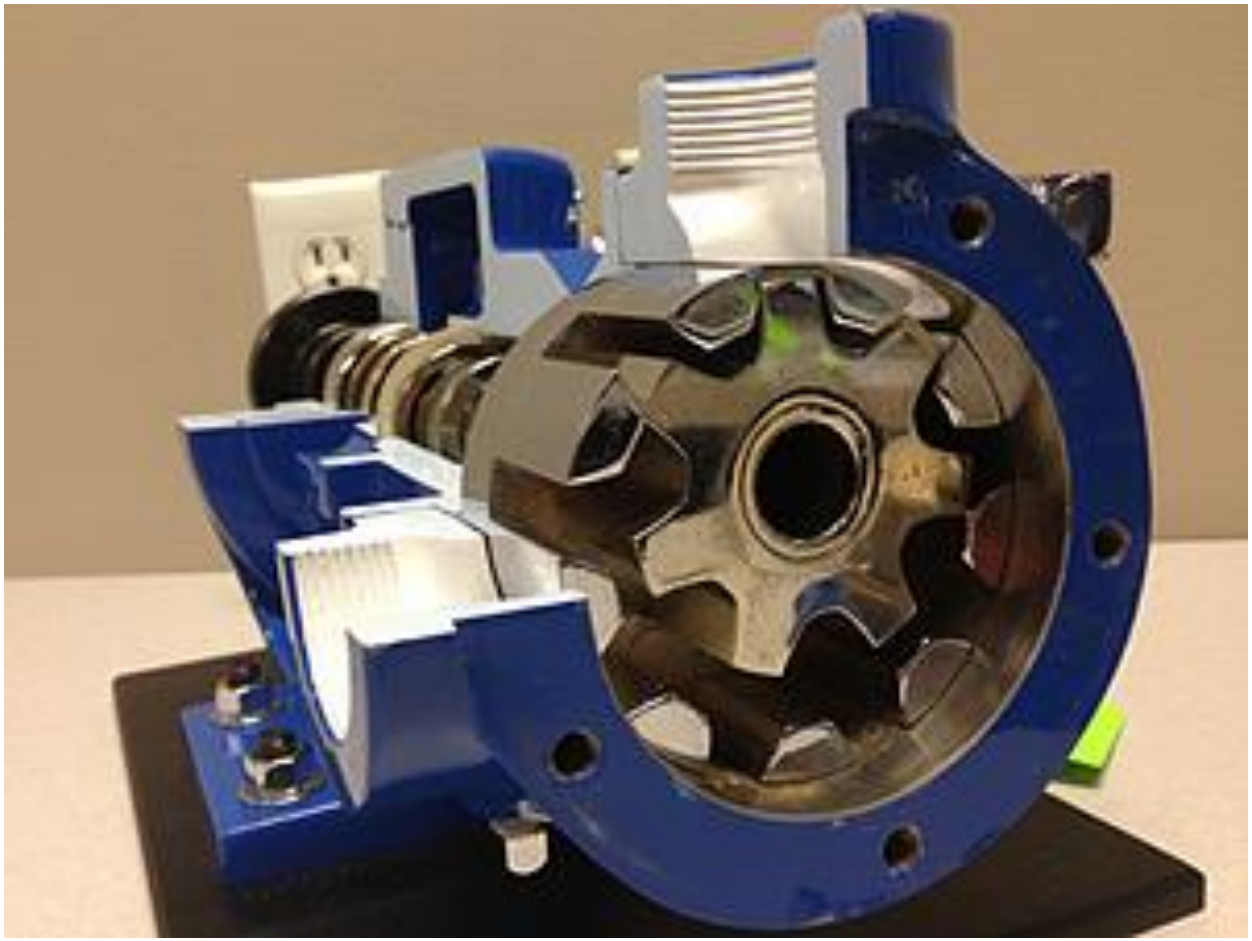
			• Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'Y'							
26		Cutaway Model: Semi-Hermetic Refrigerant Compressor	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high Pic attached at Annex 'Z'	No	Any	1				
27		Cutaway Model: Hermetic Refrigerant Compressor	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AA'	No	Any	1				
28		Cutaway Model: Open Refrigerants Compressor, two cylinder	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces, and using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high.	No	Any	1				

			Pic attached at Annex 'AB'							
29		Cutaway Model: Thermostatic Expansion Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AC'	No	Any	1				
30		Cutaway Model: 4/2-Way Reversing Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AD'	No	Any	1				
31		Cutaway Model: Long Coupled Centrifugal Pump	• Sectioning of actual hardware. • Color-coding of the pump components, impellers, shafts, bearings and flow paths using contrast colors. • Minimum dia 2.5''. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high.	No	Any	1				

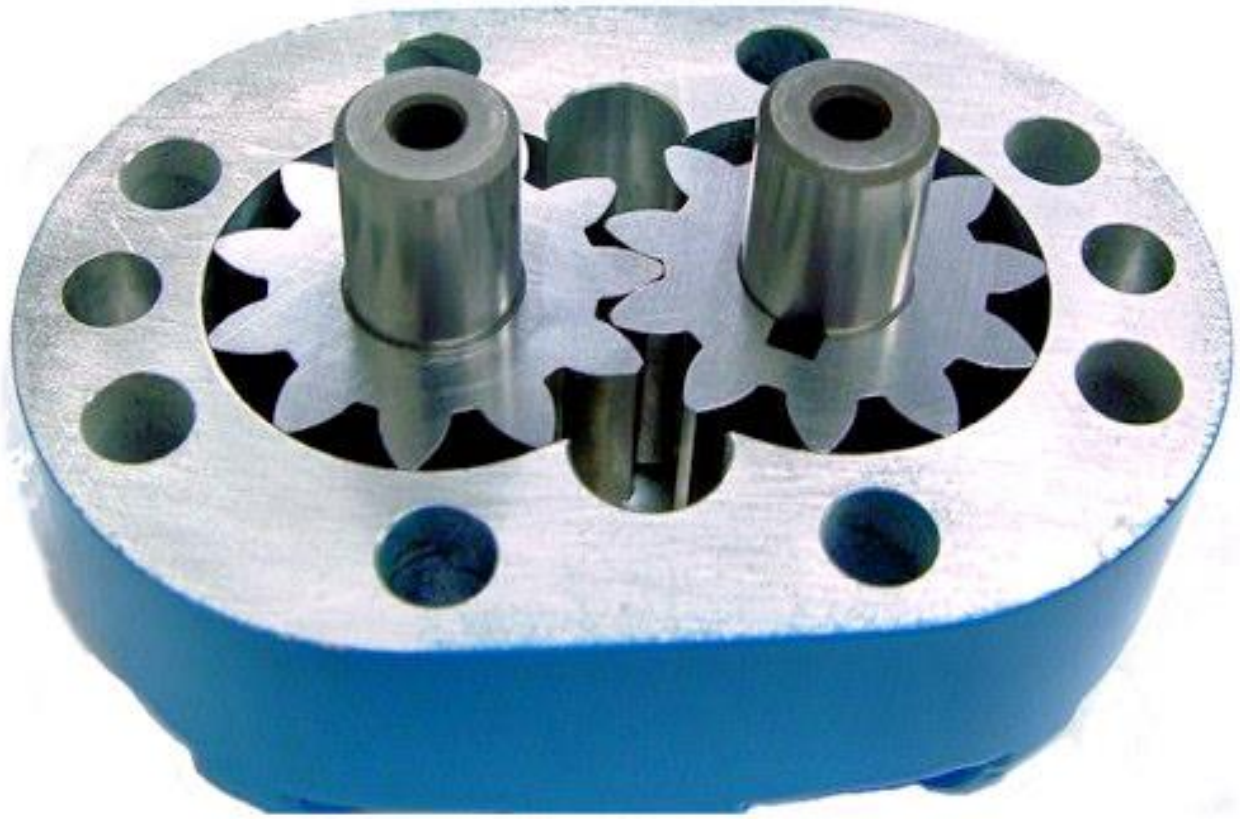
			Pic attached at Annex 'AE'							
32		Cutaway Model: Closed Coupled Centrifugal Pump	• Sectioning of actual hardware. • Minimum dia 2''. • Color-coding of the pump components, impellers, shafts, bearings and flow paths using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AF'	No	Any	1				

Installation /Assembly /Commissioning Required	Yes	No✓	Contract with OEM / Supplier	Yes✓		No
Performance Bond Required	Yes	No✓	Package Deal	Yes		No✓
Note: (If any)			**Warranty (2 x Years)**	Yes		No✓
Maintenance Spares Required	Yes	No✓	Essentially Running Spares Required	Yes		No✓
Publications / Literature Required	Yes	No✓	Requirement of Certificate for Test Data Results	Yes		No✓
Training Required	Yes	No✓	Requirement of Calibration	Yes		No✓

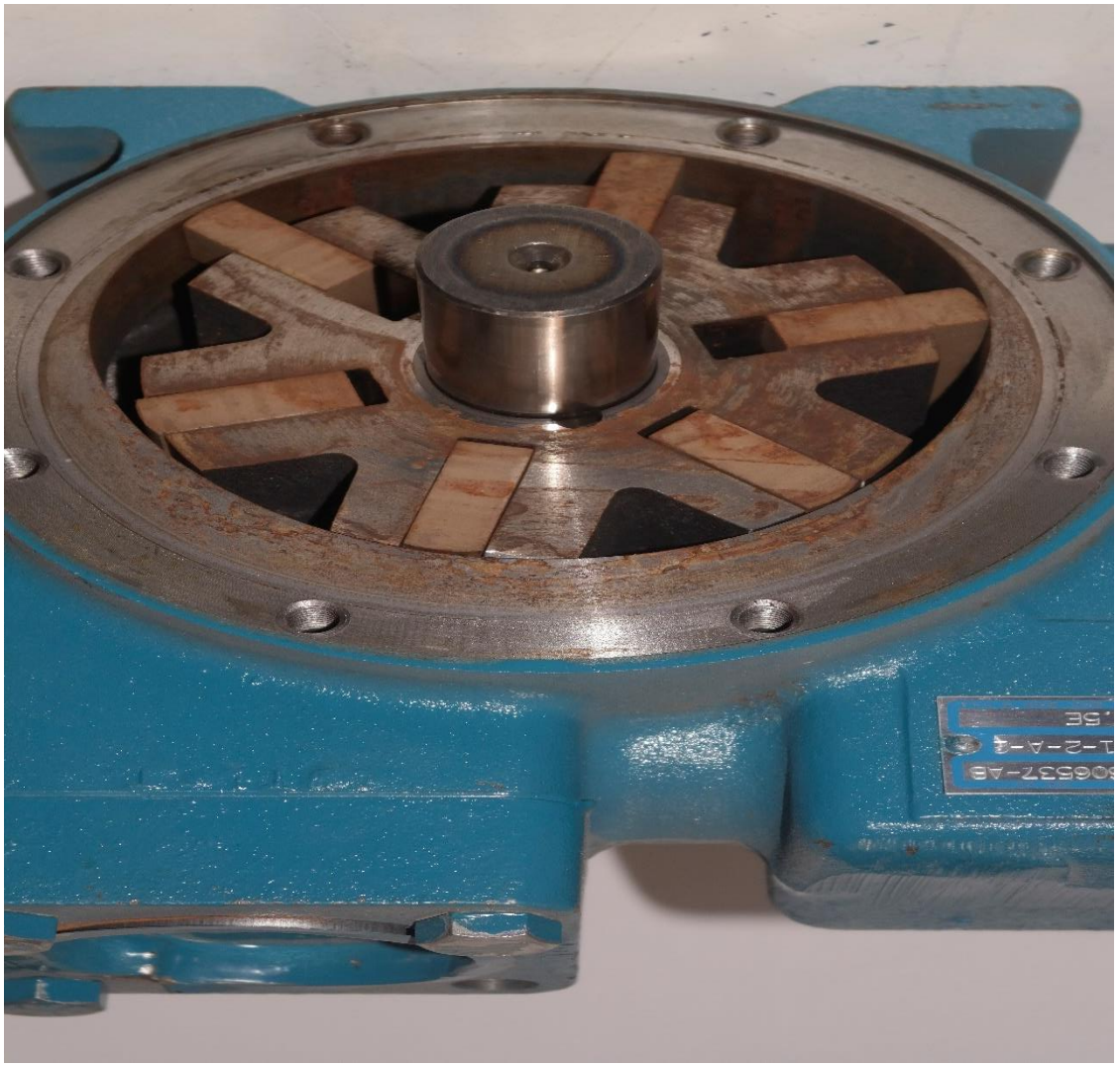
Firm Name: _____
Signature: _____
Name: _____
Designation: _____



Internal Gear Pump



External Gear Pump



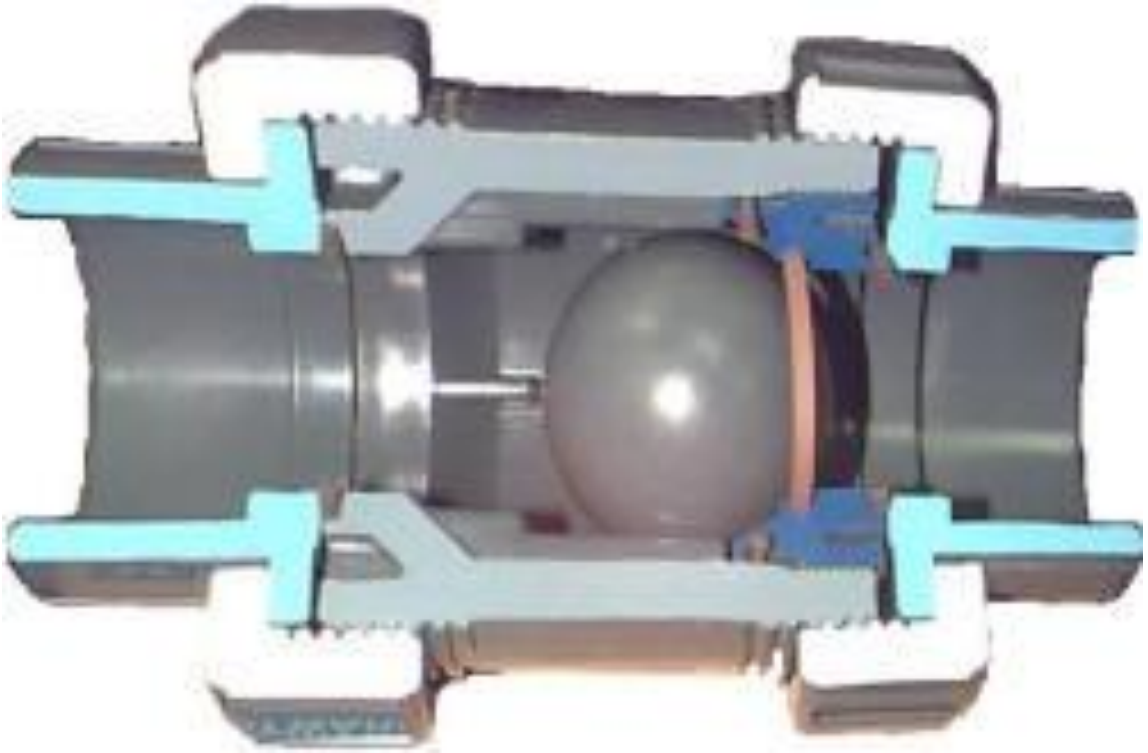
Vane Pump

Ball Valve

Gate Valve

Globe Valve

Butterfly Valve



Ball Check Valve

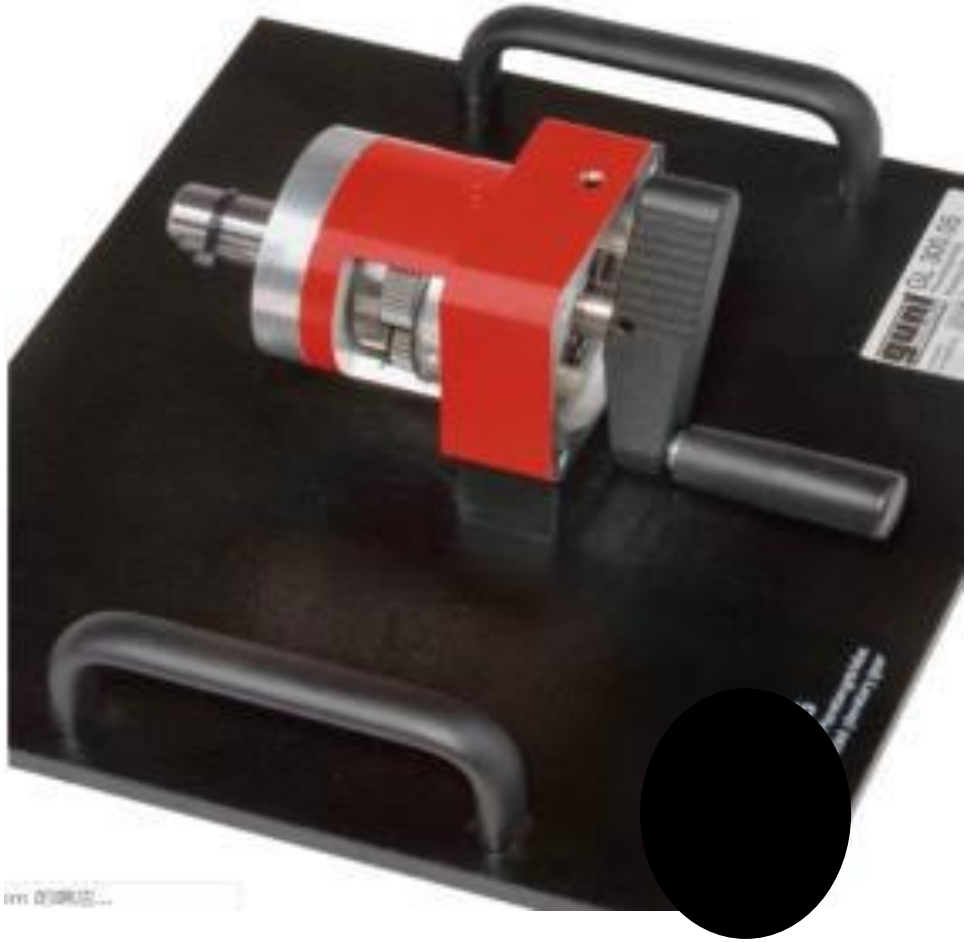
Spring Safety Valve

Cutaway Model: Worm Gear

Annex ‘K’

Cutaway Model: Spur Gear

Annex ‘L’’



Cutaway Model: Planetary Gear

Cutaway Model: Control Gear

Cutaway Model: Pedestal Bearing

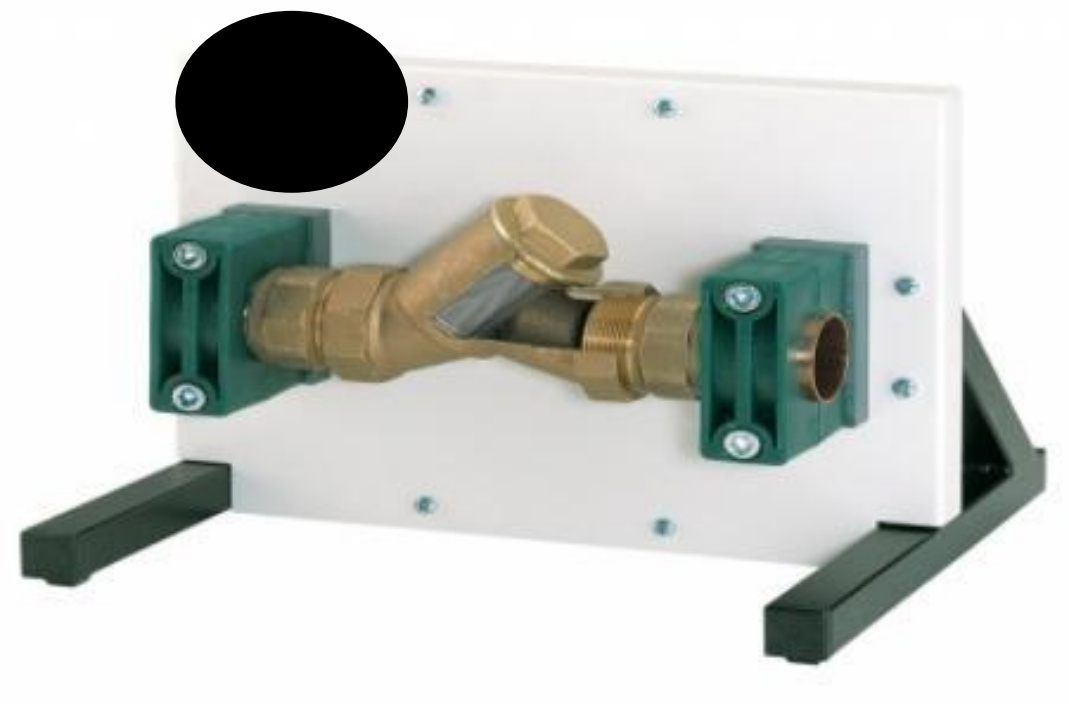
Cutaway Model: Miter Gear

Cutaway Model: two-Stage Spur Gear

Cutaway Model: Variable Speed Belt Drive

Cutaway Models: Multiple-Disc Clutch

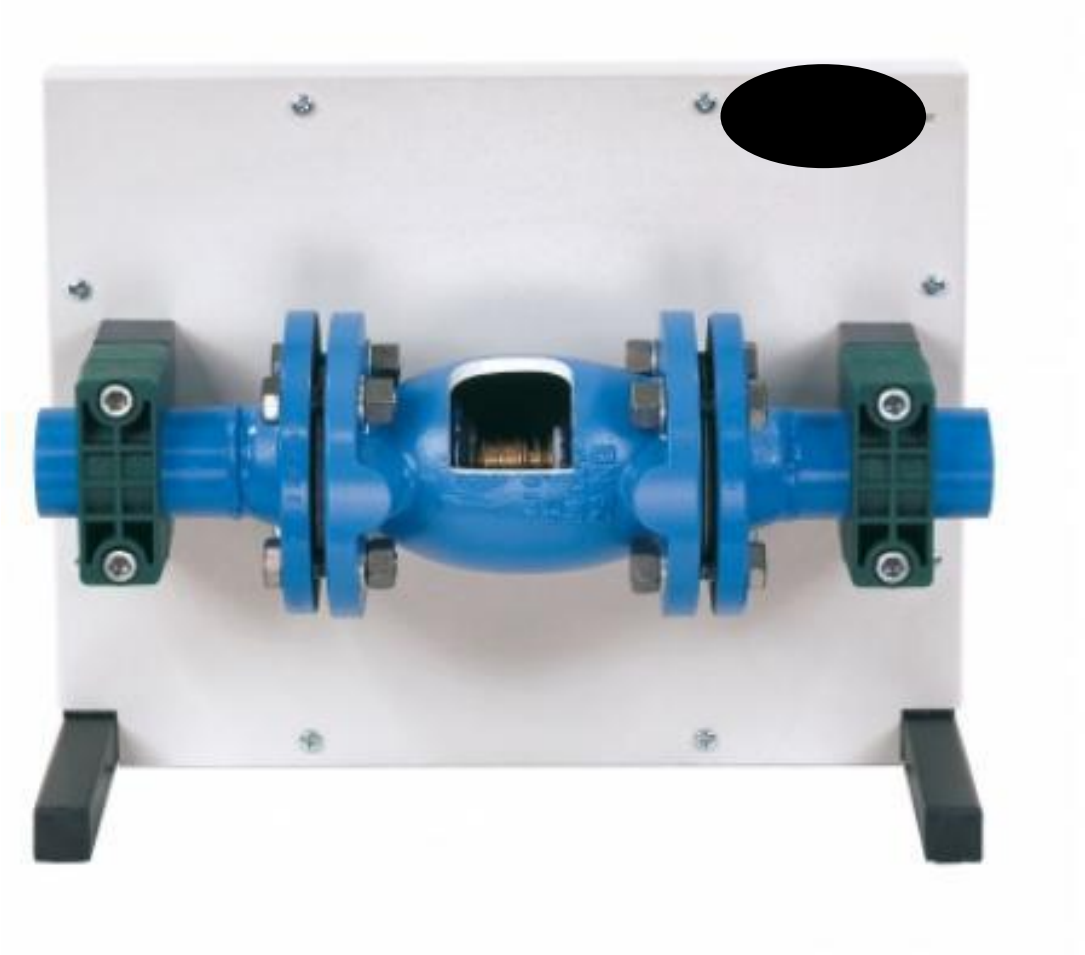
Belt Friction Apparatus



Cutaway model: strainer

Cutaway Model: Pressure Gauges

Cutaway Model: Changeover Valve



Cutaway Model: Back Flow Preventer

Cutaway Model: Screw Down Valve

Cutaway Model: Non-Return Butterfly Valve

Cutaway Model: Semi-Hermetic Refrigerant Compressor

Cutaway Model: Hermetic Refrigerant Compressor

Cutaway Model: Open Refrigerants Compressor, two cylinder

Cutaway Model: Thermostatic Expansion Valve

Cutaway Model: 4/2-Way Reversing Valve

Long Coupled Centrifugal Pump

Closed Coupled Centrifugal Pump

Annex-B

TECHNICAL OFFER

NUTECH / SCM / Mechanical Lab Phase-lll (B)-2019 / TD-092

Fill in following essential parameters:-

1. Validity of Offer: _____Days (Should not be less than **90 days**)
2. Delivery period: _____Days (After placement of Offer)
3. Country of Origin: _____
4. Warranty Period: _____

General

1. GST Number: _____ (Enclose Copy)
2. NTN / CNIC: _____ (if exempted, provide valid exemption certificate)

Payment Terms.

1. 50% advance payment against BG/CDR/Pay Order/DD
2. 50% payment after delivery, installation / commissioning, user satisfaction certificate.

Details of Payment Recipient

1. Name / Title: _____
2. Address: _____

OEM Name:	Signature:
Focal Person:	Official Seal:
Phone Number:	Name:
Email Id:	Designation:

Annex-C

FINANCIAL OFFER

NUTECH / SCM / Mechanical Lab Phase-lll (B)-2019 / TD-092

Ser	Part	Items	Description	A/U	Qty Req	Unit Price (Rs) (Including all taxes)	Total (Rs) (Including all taxes)
1		Internal Gear Pump (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the pump components, and flow paths using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘A’	No	1		
2		External Gear Pump (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the pump components, and flow paths using contrast colors • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘B’	No	1		
3		Vane Pump (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the pump components and flow paths using contrast colors • Minimum dia 2.5” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high Pic attached at Annex ‘C’	No	1		
4		Ball Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2”	No	1		

			• Model should be mounted on suitable base 1of wood or metal approximately 4-6 inches high. Pic attached at Annex 'D'				
5		Gate Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'E'	No	1		
6		Globe Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'F'	No	1		
7		Butterfly Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'G'	No	1		
8		Ball Check Valve (Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'H'	No	1		

9		Spring Safety Valve(Cutaway Model)	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘I’	No	1		
10		Cutaway Model: Worm Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘J’	No	1		
11		Cutaway Model: Spur Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘K’	No	1		
12		Cutaway Model: Planetary Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘L’	No	1		
13		Cutaway Model: Control Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘M’	No	1		
14		Cutaway Model: Pedestal Bearing	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors.	No	1		

			• Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'N'				
15		Cutaway Model: Miter Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'O'	No	1		
16		Cutaway Model: two-Stage Spur Gear	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'P'	No	1		
17		Cutaway Model: Variable Speed Belt Drive	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'Q'	No	1		
18		Cutaway Models: Multiple-Disc Clutch	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'R'	No	1		
19		Belt Friction Apparatus	Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'S'	No	1		
20		Cutaway model: strainer	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2"	No	1		

			• Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'T'				
21		Cutaway Model: Pressure Gauges	• Sectioning of actual hardware. • Color-coding of the components, internal surfaces, using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'U'	No	1		
22		Cutaway Model: Changeover Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'V'	No	1		
23		Cutaway Model: Back Flow Preventer	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'W'	No	1		
24		Cutaway Model: Screw Down Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2" • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'X'	No	1		
25		Cutaway Model: Non-Return Butterfly Valve	• Sectioning of actual hardware.	No	1		

			• Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Minimum dia 2” • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘Y’				
26		Cutaway Model: Semi-Hermetic Refrigerant Compressor	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high Pic attached at Annex ‘Z’	No	1		
27		Cutaway Model: Hermetic Refrigerant Compressor	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘AA’	No	1		
28		Cutaway Model: Open Refrigerants Compressor, two cylinder	• Sectioning of actual hardware. • Color-coding of the components, body, internal surfaces, and using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘AB’	No	1		
29		Cutaway Model: Thermostatic Expansion Valve	• Sectioning of actual hardware. • Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex ‘AC’	No	1		
30		Cutaway Model: 4/2-Way Reversing Valve	• Sectioning of actual hardware.	No	1		

			• Color-coding of the valve components valve body, internal surfaces, seat, and closure devices using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AD'				
31		Cutaway Model: Long Coupled Centrifugal Pump	• Sectioning of actual hardware. • Color-coding of the pump components, impellers, shafts, bearings and flow paths using contrast colors. • Minimum dia 2.5''. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AE'	No	1		
32		Cutaway Model: Closed Coupled Centrifugal Pump	• Sectioning of actual hardware. • Minimum dia 2''. • Color-coding of the pump components, impellers, shafts, bearings and flow paths using contrast colors. • Model should be mounted on suitable base of wood or metal approximately 4-6 inches high. Pic attached at Annex 'AF'	No	1		
			Total (Rs)				

Bid Bond Ref _____ GST _____
Total Value (Including Tax) _____
Bid Bond to be attached with Annex-C. Copy of Bid Bond be attached with technical offer without showing its value. Exposure of bid bond may result in rejection of offer.

Firm Name: _____
Signature: _____
Name: _____
Designation: _____