

Research Section  
All-India Institute of Medical Sciences  
Ansari Nagar, New Delhi-29  
(RESEARCH SECTION)

RS-AIIM

Ref. No. 31/Prop/K.G/CCRF/23-24/RS

Dated: - 24/11/23

**Subject: Procurement of High Resolution Mass Spectrometer (HRMS)- 01 No**  
**Inviting comments thereon.**

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The request has been received from Dr. Kamal Gulati, Scientist-II, CCRF. to

Purchase the subject item from M/s Vision Diagnostic Ind Pvt Ltd, (Mfg: M/s. Thermo Fisher Scientific, on proprietary basis. The proposals submitted by M/s Vision Diagnostic Ind Pvt Ltd, (Mfg: M/s. Thermo Fisher Scientific,

and Performa Invoice and Departmental PAC certifications are attached.

The above documents are being uploaded for open information to submit objections, comments, if any, from any manufacturer regarding proprietary nature of the equipment/item within issue of 15 days 31/Prop/K.G/CCRF/23-24/RS. The comments should be received by office of Stores Officer (RS), Research Section at AIIMS on or before 09/12/23 upto 12:00 p.m., failing which it will be presumed that any other vendor is having no comment to offer and case will be decided on merits.

STORES OFFICER (RS)

**Encl: Related documents enclosed.**

1. PAC Certificate enclosed.
2. Performa Invoice





Tuesday, September 19, 2023

Ref:-1156/VISION/AIIMS/2023-24

To,

The Director  
All India Institute of Medical Science,  
Ansari Nagar,  
New Delhi 110029

Subject: Our offer for Thermo Scientific Orbitrap Ascend - High Performance Orbitrap MS system for Proteomics and Metabolomics application,

Dear Sir/ Madam,

This has reference to your requirement of High Resolution Mass Spectrometer (HRMS) and Accessories, we submit our offer for Thermo Scientific Model Orbitrap Ascend tribrid - Ultra High-Resolution Mass spectrometer with Ultrahigh Performance Liquid Chromatography and Nano Liquid Chromatography and accessories for your kind consideration.

Molecular Diagnostics Simplified

S. No	Part No.	Description	Qty.	Price (INR)
1	PSN06-10003	<p>The Thermo Scientific™ Orbitrap Ascend™ Tribrid™ with ETD and PTCL ready.</p> <p><b>Benefits-</b></p> <ul style="list-style-type: none"> <li>Improved capture of labile compounds while maintaining optimal ion transmission</li> <li>Exceptional performance with shorter gradients due to higher MS/MS sensitivity and scan rate</li> <li>Unmatched depth, accuracy, and precision for Tandem Mass Tag™ (TMT™) analysis</li> <li>Higher Mass Range MSn (HMRn+) option for comprehensive analysis of native protein complexes</li> <li>The fully integrated Auto-Ready ion source allows for complete, unattended system calibration, without the need for manual hardware reconfiguration</li> <li>Full experimental flexibility with revolutionary instrument control software</li> <li>A wide range of optional functionalities or unprecedented versatility</li> <li>Common user interface with Thermo Scientific™ Orbitrap Exploris™ and Thermo Scientific™ TSQ™ Triple Quadrupole mass spectrometers Key capabilities:</li> <li>Improved high-sensitivity atmospheric pressure interface combines a high capacity transfer tube and a</li> </ul>	01	22,65,00,000.00

*Handwritten notes:*  
S. K. Singh  
K. S. Singh  
S. K. Singh  
S. K. Singh  
S. K. Singh

*Handwritten signature:* Arun J.

Vision Diagnostic (India) Pvt. Ltd.

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*Shankar*  
*Sanjiv*  
*SS*  
*SS*  
*SS*

S. No	Part No.	Description	Qty.	Price (INR)
		<p>modified electrodynamic ion funnel, providing an increased ion flux and lower limits of detection for a wider range of molecules</p> <ul style="list-style-type: none"> <li>Active Ion Management (AIM+) Technology that includes the QR5 segmented quadrupole mass filter with hyperbolic surfaces, maximizes ion transmission to achieve unprecedented levels of qualitative and quantitative performance.</li> <li>Dual Ion Routing Multipoles (IRMs) improves ion transfer, capture and dissociation</li> <li>Automated, remote, and hands-free calibration with the Auto-Ready ion source, allowing the user to spend more time obtaining results and less time on instrument setup</li> <li>Optional Higher Mass Range MSn (HMRn+) mode provides expanded mass range capabilities for comprehensive MSn characterization of native proteins and protein complexes</li> <li>Real-Time Search of a database or a spectral library enables faster data acquisitions and improved specificity, significantly increasing analytical performance, including TMT-based quantification experiments</li> <li>Thermo Scientific™ TurboTMT mode improves HRAM MSn acquisition rates in TMT experiments</li> <li>Thermo Scientific™ Precursor Fit filter enables precursor ion selection for a defined specificity</li> <li>Enhanced Vacuum Technology improves Thermo Scientific™ Orbitrap™ mass analyzer performance</li> <li>Improved accumulation and transmission of high molecular weight ions to the ion trap and Orbitrap mass analyzers</li> <li>Unique Tribrid architecture includes a quadrupole mass filter, dual-pressure linear ion trap and Orbitrap mass analyzers, allowing for high acquisition rates to provide maximum experimental flexibility for dissociation and detection of fragment ions</li> <li>DDA MS/MS acquisition rates of up to 45 Hz with 7500 resolution @ m/z 200 for Orbitrap mass analyzer and 50</li> </ul>		

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S. No.	Part No.	Description	Qty.	Price (INR)
		<p>Hz in the linear ion trap experiments Orbitrap resolution up to 480,000 FWHM at m/z 200</p> <ul style="list-style-type: none"> <li>▪ Large surface area ion trap detector for significantly improved robustness and lifetime</li> <li>▪ Full parallelization of MS and MSn analyses with Dynamic Maximum Injection Time</li> <li>▪ Synchronous Precursor Selection (SPS) for MSn experiments</li> </ul> <p>Optional Compact Electron Transfer Dissociation and Proton Transfer Charge Reduction (ETD/PTCR) ion source based on Townsend discharge with extremely stable anion flux for improved usability and reagent longevity</p> <p>Multiple fragmentation techniques: collision-induced dissociation (CID), higher-energy collisional dissociation (HCD), optional electron-transfer dissociation (ETD, including electron-transfer higher-energy collision dissociation, or EThcD, and electron-transfer collision-induced dissociation, or ETciD) and optional ultraviolet photodissociation (UVPD), available at any stage of MSn with detection in the Orbitrap mass or linear ion trap analyzers</p> <p>Optional Proton Transfer Charge Reduction (PTCR) simplifies MSn spectra of multiply charged analytes</p> <p>Advanced Peak Determination (APD) for improved precursor annotation in data-dependent experiments</p> <p>Universal method maximizes peptide identifications without method optimization when sample concentration is unknown</p> <p>Intuitive, flexible drag-and-drop instrument method editor Simplifies method development and creation of unique analytical workflows</p> <p>Extensive pre-built and optimized method templates that are fully customizable for a variety of application workflows</p> <p>Thermo Scientific™ AcquireX data acquisition workflow provides all-inclusive, automated small molecule sample profiling on an LC timescale</p> <p>Streamlined calibration routines with improved Orbitrap calibration for ions with m/z &lt;200 Performance specifications</p>		

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 S. No. 1  
 Part No. B  
 Description  
 Qty. 1  
 Price

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S. No	Part No.	Description	Qty.	Price (INR)
		<p>Orbitrap mass range Standard mass range m/z 40-2000, mid-mass range m/z 200-6000, and optional HMRn+ mass range m/z 500-16,000</p> <p>Orbitrap resolution Standard resolution settings range from 7500 to 480,000 (FWHM) at m/z 200, with isotopic fidelity up to 240,000 FWHM</p> <p>Acquisition rate* Orbitrap MSn acquisition rates up to 45 Hz when measured using a data-dependent experiment with FlexMix calibration solution, MS and HCD MS/MS resolution setting of 7500 @ m/z 200, with a maximum ion fill time of 11 milliseconds, linear ion trap MSn acquisition rates up to 50 Hz using a data dependent experiment with FlexMix calibration solution, Orbitrap mass analyzer resolution of 240,000 and HCD MS/MS ion trap detection range of m/z 200-1400, with a MS/MS maximum ion fill time of 10 milliseconds</p> <p>Orbitrap mass accuracy* External calibration achieves &lt;3 ppm RMS drift over 24 hours, measured with FlexMix; internal calibration achieves &lt;1 ppm RMS drift over 24 hours, measured with FlexMix</p> <p>MS/MS Electrospray Ionization (ESI) ion trap sensitivity 2 µl of a 50 fg/µl solution of reserpine (100 femtograms total) injected at a flow rate of 500 µl/min produces a minimum S/N ratio of 200:1 for the transition of the isolated protonated molecular ions at m/z 609 to the largest two product ions, m/z 397 and m/z 448, when the mass spectrometer is operated at unit resolution in the full scan MS/MS mode, m/z 165-615; the test requires the HESI II probe</p> <p>Dynamic range &gt;5000 within a single Orbitrap mass spectrum MS scan power Collects MSn, for n = 1 through 10, detected in either the Orbitrap or linear ion trap mass analyzer</p> <p>Synchronous precursor isolation Samples up to 20 precursors per MSn scan. Precursor multiplexing Up to 20 precursors can be multiplexed using the quadrupole mass filter and front ion-routing multipole to perform selected ion monitoring or tandem MS Polarity switching One full experimental cycle acquired in &lt;1.1 seconds where the cycle consists of acquiring one full MS scan in positive and negative polarity at a resolution setting of 30,000</p> <p>ETD option efficiency Reaction with ETD anions dissociates the isolated 2+ MRFA precursor (m/z 262) to generate a series of fragments that have a summed relative abundance ≥15% to the precursor measured in the linear ion trap, using FlexMix solution infused at 6 µl/min</p>		

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 S. No. 1  
 Part No. 1  
 Qty. 1  
 Price (INR) 1



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S. No	Part No.	Description	Qty.	Price (INR)
		<p>UVPD option efficiency Exposure of 100 ms dissociates the isolated caffeine molecular ion (m/z 195) to generate the m/z 138 product ion with a relative abundance of ≥25% to the precursor measured in the linear ion trap, using FlexMix solution infused at 6 µL/min</p> <p>PTCR option efficiency Reaction time of 100 ms causes isolated MRFA 2+ molecular ion (m/z 262) to convert to a charged reduced ion at m/z 524, with a relative abundance of ≥25% to the precursor measured in the linear ion trap, using FlexMix calibration solution infused at 6 µL/min.</p> <p><b>Software features</b>  <b>Data system:</b></p> <ul style="list-style-type: none"> <li>High-performance PC with Intel® microprocessor</li> <li>High-resolution LED color monitor</li> <li>Microsoft® Windows® 10 operating system</li> </ul> <p><b>Thermo Scientific™ Xcalibur™ software</b></p> <ul style="list-style-type: none"> <li>Xcalibur software is the control software for the next generation Thermo Scientific mass spectrometer portfolio</li> <li>Accelerates familiarization and reduces training needs</li> <li>Orbitrap Ascend Tribrid MS instrument control software</li> <li>Tune application for instrument calibrations and checks, diagnostics, and manual data acquisition</li> <li>Method editor with a comprehensive application-specific template library, method setup supported by tooltips, and a drag-and-drop user interface to facilitate method development</li> </ul> <p><b>Xcalibur Software:</b></p> <ul style="list-style-type: none"> <li>Access all instrument capabilities for robust control of Thermo Scientific MS systems.</li> <li>Transfer acquired files to a secure, central location immediately after acquisition</li> </ul>		
2	FETD4-10001	IC KIT Orbitrap Ascend for internal Calibration	1	Included
3	FETD4-10002	ETD RF SYSTEM KIT, ASCEND for the ETD applications	1	Included
4	FETD5-10003	Thermo Scientific™ PTCR ion source	1	Included
5	00109-99-00046	VALVE, 2 POS, 6PRI, RHEODYN MX1715-004, RoHS	1	Included
6	OPTON-20046	Pre-Installation Kit for Orbitrap Ascend	1	Included
7	OPTON-32101	APCI Kit w/ APCI Sprayer, OptaMax Note: H-ESI comes along with system	1	Included
<b>Nano Sources</b>				
8	ES082	EASY-Spray Source Kit (NG)	1	Included
	ES072	Flex ion source (NG)	1	Included

Nano LC: Vanquish Neo System  
 Vision Diagnostic (India) Pvt. Ltd.

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S. No	Part No.	Description	Qty.	Price (INR)
9	VN-S10-A-01	Vanquish Neo System (Includes: Binary Pump N, Split Sampler NT (Autosampler), Solvent Rack, Vanquish User Interface (VUI), System base with drawer, Ship kit. The Ship kit includes all items required for following workflows: Direct injection Trap-and-elute (2-column setup) Heated trap-and-elute (requires Column Compartment N and 1 x 2pos-6port valve)	1	Included
10	6036.1180	VANQUISH DISPLAY	1	Included
11	VN-C10-A-01	Column Compartment N	1	Included
12	88328	PERCE STD HELA PROTEIN DIGEST 20 UG IPK	1	Included
13	88342	6 Protein Digest, Equimolar, LC-MS Grade	1	Included
<b>UHPLC: VANQUISH FLEX</b>				
14	VF-S01-A-02	SYSTEM BASE VANQUISH HORIZON / FLEX	1	Included
15	VF-P20-A	QUATERNARY PUMP F	1	Included
16	VF-A10-A-02	Split Sampler FT (Autosampler)	1	Included
17	VH-C10-A	Column Compartment H	1	Included
18	6044.5110	STATIC MIXER 150UL (FOR 200UL), 150MPA	1	Included
19	6850.1913	SAMPLE LOOP, 1000UL, BIOCOMP, VH-A1, VF-A1	1	Included
20	6732.0110	ACTIVE PRE-HEATER, 0.1X380MM, VH-C	1	Included
21	6732.0510	POST COOLER 1UL, 0.1X240MM, VH-C	1	Included
22	6732.0610	COLUMN-ID TAG, 2 PCS, VH-C	1	Included
23	4801.0100	INSTALLATION, QUALIFICATION, SW FOLDER	1	Included
24	4801.0000	INSTALLATION, QUALIFICATION, HW FOLDER	1	Included
25	3323.0010	OO/PO STD, CAFFEINE/PYRENE, INCL CD	1	Included
26	OPTON-08600-A4	KIT, QUALIFICATION, LC_LCMS_GC_GCMS, A4	1	Included
27	VC-P40-A-01	ISOCRATIC PUMP	1	Included
28	6041.5260	NANOVIPER CAPILLARYIDXL 20UMX550MM	1	Included
29	6041.5540	NANOVIPER CAPILLARY IDXL 50UMX350MM	1	Included
30	6041.5121	NANOVIPER CAPILLARYIDXL 20UMX150MM	1	Included
31	6074.0285	UV-MONITOR, 45NL, VF/C-D4, U3VWD	1	Included
32	6041.5240	NANOVIPER CAPILLARYIDXL 20UMX350MM	1	Included
33	VF-D40-A	VARIABLE WAVELENGTH DETECTOR F for Nano 2 D application	2	Included
<b>Detector:</b>				
34	VF-D40-A	VARIABLE WAVELENGTH DETECTOR F	1	Included
35	6077.0250	FLOW CELL STD, 11UL, VF/C-D4	1	Included
36	6077.0360	FLOW CELL SEMI-MIC, 2.5UL, VF/C-D4	1	Included
<b>FRACTION COLLECTOR</b>				
37	VF-F11-A-01	FRACTION COLLECTOR F	1	Included
38	6702.0200	Adapter, 4x well plates, AFC/VF-F10/VF-F11	1	Included
39	6702.0300	Kit, ID=0.4mm, PEEK, AFC/VF-F10/VF-F11	1	Included
<b>Software</b>				
40	OPTON-31099	Proteome Discoverer 3.3 software with 1 Year CHIMERYS: (Latest upgraded version of software will be supplied) <ul style="list-style-type: none"> <li>Bottom-up peptide and protein Identification</li> <li>Label-Free Quantification (LFO)</li> </ul>	1	Included

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S. No	Part No.	Description	Qty.	Price (INR)
		<ul style="list-style-type: none"> <li>Isobaric Mass Tagging Peptide Quantification</li> <li>Single-cell proteomics</li> <li>Immunopeptidomics</li> <li>Metaproteomics</li> <li>Top-down Proteoform Identification and Quantification with Thermo Scientific™ ProSightPD™ software</li> <li>Post-Translational Modification (PTM) Analysis</li> <li>Accommodates nodes for top-down (ProSightPD) and structural biology and cross-linking analysis (XL-MS)</li> </ul>		
41	OPTON-30879	<p><b>LipidSearch™ 5.1 Software:</b> Relative quantitation and accurate identification of lipids from biological samples requires sophisticated software with a comprehensive database. Thermo Scientific LipidSearch software provides automated identification of lipids and integrates an entire dataset into a concise report showing statistical differences between sample groups</p> <p>1- Data Analysis Module -Peak Detection</p> <ul style="list-style-type: none"> <li>Raw data file reading</li> <li>Smart peak detection</li> </ul> <p>2- Identification Module -Lipid Identification</p> <ul style="list-style-type: none"> <li>Group-specific ID (targeted)</li> <li>Comprehensive ID (untargeted)</li> <li>Scoring algorithms</li> </ul> <p>3-Quantitation Module— Alignment and Quantitation</p> <ul style="list-style-type: none"> <li>XIC peak integration</li> <li>Retention time alignment</li> <li>Relative quantitation</li> <li>Statistical analysis</li> </ul>	1	Included
42	OPTON-31055	<p><b>Compound Discoverer 3.3 - Full Version:</b> "Unknown Identification:</p> <ul style="list-style-type: none"> <li>Identify compounds using MS/MS libraries</li> <li>Determine elemental composition using high-resolution full MS isotopes and MS/MS data</li> <li>Search online chemical databases</li> <li>Gain confidence in ID with automated MSn tree search against mzCloud"</li> </ul>	1	Included

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S. No.	Part No.	Description	Qty.	Price (INR)
57	NPN-PC	High End Computer for data processing- <ul style="list-style-type: none"> <li>Intel Core i7® or Xeon® Processor (16 cores with most advanced and suitable configuration for big data analysis).</li> <li>Operating system: Windows 11 or better, 64 bit or better.</li> <li>Latest MS office (Office 365 or better).</li> <li>Motherboard: TPM Enabled or better.</li> <li>Two numbers of internal SSD hard drive of 5TB (Total of 10 TB) or better for each system.</li> <li>RAM: 128 GB or better.</li> <li>27-inch HD monitor display or better.</li> </ul>	2	Included
58	NPN-FPC	Suitable PC for the fraction collector	1	Included
59	NPN-HC	Helium cylinder with dual stage regulator	2	Included
60	NPN-N2C	Nitrogen Cylinder with dual stage Regulator	2	Included
61	NPN-N2C	Nitrogen Cylinder with dual stage Regulator	1	Included
62	NPN-GP	Gas Panel with SS tubing, installation	1	Included
63	NPN-FMS	Heavy duty Vibration free Table for MS. Should be able to hold 300+KG weight	1	Included
64	NPN-MAN-P	Suitable Manpower for 3 years	1	Included
65	NPN-NG	Nitrogen Generator	1	Included
66	NPN-NG	Nitrogen Generator	2	Included
67	NPN-Cons	C18 guard columns (3 µm, 75µm, 2 cm). Analytical columns (2µm, 75µm, 50 cm).	1	Included
68	NPN-Cons	2.5 Lt. of LCMS grade Acetonitrile 2.5 Lt. of LCMS grade Water 2.5 Lt. of HPLC grade Methanol 2.5 Lt. of HPLC grade 2-propanol HeLa protein digest standard (for QC/QA of MS) Positive ion calibration solution Negative ion calibration solution MS grade E. Coli Beta-Galactosidase digest (LCMS calibration and internal standard)	1	Included
<b>Sub Total Price</b>				<b>22,65,00,000.00</b>
Special Institutional Discount offered				5,66,25,000.00
Total Discounted F.O.B. Price				16,98,75,000.00
Packing, Forwarding, Air Freight & Insurance Charges				0.00
Total Special Discounted C. I. P. Price, New Delhi				16,98,75,000.00
Buy Back Price of existing equipment (For the item listed in tech. specification)				15,00,000.00
<b>Total CIP New Delhi Price after Buy Back Price</b>				<b>16,83,75,000.00</b>

**TERMS AND CONDITIONS**

- Validity of Bids:** Our bids are valid for a period of 180 days.
- GST Charges:** 18% extra applicable on above quoted price.
- Warranty:** We offer a Warranty of 60 months from the date of installation or 63 months from the date of shipment (whichever is earlier).

Vision Diagnostic (India) Pvt. Ltd.

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to 4343021 (22 Lines)  
info@vision-groups.com  
www.vision-groups.com

Regd. Office

Plot No. 405, Ground Floor  
Patparganj Industrial Area  
Patparganj, Delhi-110092  
Phone: 011-4080875, 4162483  
GSTIN - 07AABCV9329R125

Lucknow Office

2nd Floor, 20/75 Sector-1  
LDA, Goley, Mangar Road  
Lucknow - 226012, U.P.  
Ph : 0522-4016799  
GSTIN - 09AABCV8938R125  
info@reg@vision-groups.com



Chennai Office

Ground Floor, Spandan  
2nd Floor, First Street, St. Thomas  
Mount, Chennai-600016, Tamil Nadu  
Tel : - 91 7428793111, 044 2211 2475  
info.chennai@vision-groups.com

*Sanjay Kumar*  
*Sanjay Kumar*  
*Sanjay Kumar*





Molecular Diagnostics Simplified

4. **CMC Charges:** 7% of equipment cost on 6<sup>th</sup> year and 5% escalation every year from 7 to 10 years. GST will be charge extra.
5. **Delivery period:** Delivery of the ordered items shall be made within 12-16 weeks from the date of confirmed purchase order.
6. **Installation:** The supplied equipment's shall be installed totally free of cost by our factory-trained service engineers. Any locally supplied items not manufactured by us, shall be installed by authorized service engineers of those original manufacturers / distributors.
7. **Training:** Multiple trainings and workshops for instrument operation and applications will be done at site.
8. **Service Support:** We have a team of service engineers who are trained at our factory. The service team shall provide prompt and quality service during and after the warranty of the equipment. We assure that the response time will be 24 hour and in case of minor breakdown the system will be fixed in 48 hours, in case of major breakdown the system will be fixed in 3 days and the maximum break down time will be 5 days of as per tender.
9. **Spares and consumables:** We maintain an inventory of most of all commonly required parts and also most consumables required for smooth operation of the supplied equipment's. This inventory is at our warehouse near Mumbai and shall be available at short notice as and when required.
10. List of consumables are attached for Rate Contract.
11. We undertake to the effect that the Price bid does not contain any conditions whatsoever of the price demanded for sale.
12. We also undertake to the effect that the offered equipment is of current generation and only the equipment/instruments of recent manufacture will be supplied and not a pre-owned one.
13. We also undertake to the effect that the Tenderer/OEM have not been banned or suspended from Government transactions due to any reason including corrupt and fraudulent practices.
14. Regarding correctness of the bid; the best of our knowledge and belief we hereby confirm that bid submitted by us is true and correct.
15. **Purchaser's responsibility:** Site preparation/supplies such as carrier gas, electrical and air conditioning are the purchaser's responsibility. These preparation requirements must be met for warranty to remain valid. (Pre-installation manual/ Specifications are available upon request).
16. **Site Preparation:** Provisions of site utilities are the responsibility of the customer. System operates on 220/230V 50Hz.
17. **Prices:** All prices quoted are in INR & on FOR basis.

If you need any further information or clarification, please feel free to contact us.

for and on the behalf of Vision Diagnostic India Pvt. Ltd.

Authorized Signatory  
Vision Diagnostic (India) Pvt. Ltd.



*Handwritten signatures and initials: Bindu Singh, Jai, etc.*

**Corporate Office**

FFSR 9A & 9B, First Floor  
Ansal Premium Corporate Suits,  
Ansal Plaza, Sector-1  
Vasthal, Ghaziabad-201010 (U.P.)  
Tel: +91-120-2443000  
to 4343021 (22 Lines)  
info@vision-groups.com  
www.vision-groups.com

**Regd. Office**

Plot No. 405, Ground Floor  
Patparganj Industrial Area,  
Patparganj, Delhi-110092  
Phone: 011-4308678 41825483  
GSTIN: 07AABCU9939R123

**Lucknow Office**

2nd Floor, 202/75, Sector-1,  
LDA Colony, Kanpur Road  
Lucknow - 226012, U.P.  
Ph: 0522-4010799  
GSTIN: 09AABCV6692R125  
info-lko@vision-groups.com

**Chennai Office**

No 1/53M, Ground Floor Sripuram  
Colony First Street, S.J. Thomas  
Mount, Chennai-600019, Tamil Nadu  
Tel: +91 7428793111, 044 22112475  
info-chennai@vision-groups.com



Date: 9/10/2023

List Price Of Consumables for HRMS (2023)

S.NO	Part Number	Description	Price In INR	GST@
1	DNV75500PN	DNV PEPMAP NEO C18 2UM 75UMX500MM 1500 BAR	1,54,279.00	18%
2	164941	PEPMAP C18 2UM 75UM X 250MM NV FS 1200BAR	1,30,130.00	18%
3	25003-103030	HYPERSIL GOLD 3UM 100X3MM COLUMN	65,122.00	18%
4	25003-153030	HYPERSIL GOLD 3UM 150X3MM COLUMN	68,784.00	18%
5	25005-254630	HYPERSIL GOLD 5UM 250X4.6MM COLUMN	61,231.00	18%
6	66640	PROSWIFT RP-4H 1X250MM	1,03,692.00	18%
7	69477	PROSWIFT RP-4H 1X50MM	92,247.00	18%
8	164947	MABPAC RP CAP 4UM 150UM X15 CM 1200 BAR DNV	1,36,081.00	18%
9	303184	MABPAC RP ANALYTICAL 4µM 1.0X150MM	1,26,009.00	18%
10	88645	MABPAC RP, ANALYTICAL 4µM, 3.0X50MM	84,235.00	18%
11	88649	MABPAC RP, GUARD CARTRIDGES 4µM, 2.1X10MM, 2/PK	24,263.00	18%
12	73205-052130	BIOBASIC SCX 5UM 50X2.1MM COLUMN	55,279.00	18%
13	73205-103030	BIOBASIC SCX 5UM 100X3MM COLUMN	60,430.00	18%
14	73205-104630	BIOBASIC SCX 5UM 100X4.6MM COLUMN	54,822.00	18%
15	302976	PROPAC ELITE WCX, 5UM, ANALYTICAL, 4.0X150MM, 3 COLUMNS FROM 1 LOT, 3/PK	4,39,030.00	18%
16	303028	PROPAC ELITE WCX, 5UM, ANALYTICAL, 2.0X50MM, EA	1,10,444.00	18%
17	82509	DNAPAC PA200 RS, 4MM, ANALYTICAL, 4.6X150MM	2,77,198.00	18%
18	62998	DNAPACPA 200G 4X50MM	73,477.00	18%
19	60209-003	SOLAµ2MG/1ML 96 WELL PLATE 1PK	30,444.00	18%
20	60309-003	10MG SOLA-AX 96 W/PLATE 1PK	41,316.00	18%
21	60209-002	SOLAµ2MG/1ML 96 WELL PLATE 1PK	30,444.00	18%
22	60309-002	10MG SOLA-CX 96 W/PLATE 1PK	33,534.00	18%
23	60209-005	SOLAµ1MG/1ML 96 WELL PLATE 1PK	30,444.00	18%
24	60309-005	SOLA WAX SPE, 10MG/2ML 96WELL PLATE	33,534.00	18%
25	60209-004	SOLAµ2MG/1ML 96 WELL PLATE 1PK	30,444.00	18%

Banding/colony

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Signature









			VISION (An ISO 9001:2009 Certified Co. 8%) CIN : U51399DL2003MTC132750	
58	A36366	TOP 2 APD 24 COLUMNS EACH		18%
59	A36367	TOP 2 APD MIDI EACH	76,870.00	18%
60	A36368	TOP 2 APD BULK EACH	2,39,160.00	18%
61	A36369	TOP14 APD 6 COLUMNS EACH	26,715.00	18%
62	A36370	TOP 14 APD 24 COLUMNS EACH	83,259.00	18%
63	A36371	TOP14 APD MIDI EACH	1,03,302.00	18%
64	A36372	TOP14 APD BULK EACH	3,23,919.00	12%
65	MS10007	Invitrosol™ LC/MS Protein Solubilizer Kit	20,262.00	12%
66	23225	Pierce™ BCA Protein Assay Kits	41,813.00	12%
67	88303	High Select™ Phosphopeptide Enrichment Kits & Reagents	2,49,532.00	18%
68	A32992	High Select™ Phosphopeptide Enrichment Kits & Reagents	48,367.00	18%
69	A32993	High Select™ Phosphopeptide Enrichment Kits & Reagents	66,085.00	18%
70	84868	Pierce™ High pH Reversed-Phase Peptide Fractionation Kit	59,671.00	12%
71	89804	Pierce™ Glycoprotein Isolation Kit, ConA	58,828.00	12%
72	89805	Pierce™ Glycoprotein Isolation Kit, WGA	75,464.00	12%
73	LSCT15B	15 mL centrifuge tubes (graduated)	4,739.00	18%
74	LSCT50B	50 mL centrifuge tubes (graduated)	6,081.00	18%
75	LSMCT02	2 ml MCF tubes (clear, low retention/high recovery)	589.00	18%
76	LSMCT01	1.5 ml MCF tubes (clear, low retention/high recovery)	1,097.00	18%
77	TLR112NXL-R-Q	Pipette Tips, 1000 µL (low retention/high recovery)	5,924.00	18%
78	TLR070R-Q	Pipette Tips, 200 µL (low retention/high recovery)	4,933.00	18%
79	TFLR113-2D-Q	Pipette Tips, 20 µL (low retention/high recovery)	6,200.00	18%
80	TLR102R-Q	Pipette Tips, 10 µL (low retention/high recovery)	4,251.00	18%
81	00107-01-00033	O-RING, 0.300"IDX, 3.19ODX3/32 THK, Viton 884	1,030.00	18%
82	00107-01-00057	O-RING, 2-004, (1.78x1.78) VITON,V884-75	774.00	18%
83	00107-01-00071	O-RING, .125"IDX, 1.03TK, 2-104,V884-75, RoHS	510.00	18%
84	00107-01-00087	O-RING, Metric, 4X250, Viton, Duro-A75 RoHS	10,844.00	18%
85	00107-01-00088	O-RING, Metric, 4X155, Viton, Duro-A75 RoHS	10,844.00	18%
87	00107-01-00140	WILLS RINGS SEAL, 146ODx3.18THK, RoHS	90,609.00	18%

*56/01/2023*  
*Mass*

*NY*

*PS*

*PK*

*SP*



*Subm*



88	00107-02550	O-RING, 2-006, .114ID X 1/16, VIT, RoHS		
89	00107-04500	O-RING, 0.312"ID, 1/16" W, Viton V884-75, RoHS		
90	00107-05902	O-RING, 01.114ID, 1/16TH, VIT	155.00	18%
91	00107-12775	O-RING, 0.325"ID, 1/16" W, Viton RoHS	609.00	18%
92	00107-15533	O-RING, 0.362"ID, 1/8", Viton Brown, RoHS	1,643.00	18%
93	00108-01-00041	FILTER, DEMISTER, SV65B1-FC, RoHS	2,196.00	18%
94	00108-02-00070	Flange, NW40, 45 Degree, SS, RoHS	57,043.00	18%
95	00109-00307	TUBING, HPLC, PEEK, 1/16ODx0.004IDx5'LG, BLK	64,336.00	18%
96	00301-15517	HAZMAT, CHEM, ANGIOTENSIN 1, 1mg VIAL	9,593.00	18%
97	00725-01-00027	SWABS, Micro-Mesh Polishing	7,629.00	18%
98	70005-20842	Gasket, C.F. Type, FETD OVEN	7,733.00	18%
99	70005-20922	SEAL, TTT 1/4 TURN	10,526.00	18%
100	70005-22071	VIAL, SAMPLE ENCLOSURE, 8X10.5	45,047.00	18%
101	70111-20971	ADAPTOR, DRAIN HOSE	14,203.00	18%
102	80000-10355	AIR FILTER, METAL MESH	23,940.00	18%
103	80000-22034	Tube, Trap Helium Feed	46,369	18%
104	80000-30010	O-RING, VITON, 2.379 ORBI	5,937.00	18%
105	80000-60317	HESI/APCI NEEDLE INSERT	10,844.00	18%
106	80000-60398	ESI "LOW FLOW" NEEDLE INSERT	84,864.00	18%
107	80000-62013	MS Calibration kit	64,220.00	18%
108	80000-62100	KIT - ETD REAGENT ION SOURCE	1,46,638.00	18%
109	80000-80151	ESI STD NEEDLE INSERT	1,84,326.00	18%
110	80100-20646	SWEEP-CONE, 3.1 BORE	42,546.00	18%
111	80100-62008	KIT, PERFORMANCE SPECIFICATION	56,405.00	18%
112	80100-62010	KIT, O-RINGS	2,57,951.00	18%
113	80500-20045	TUBE, T.T, 1/4 TURN, 2.5 DIA, (6X1.5)	12,584.00	18%
114	Q44106	Acetone, for HPLC, Qualigens (4X1L)	1,03,003.00	18%
115	Q43006	Acetic Acid Glacial, for HPLC, Qualigens (1L)	5,800.00	18%
			1,444.00	18%

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		ISO 9001:2008 Certified Co. 87% QIN US 13972, BOMBAE 132750		
116	Q43567	Iso-Propyl Alcohol, for HPLC, Qualigens 2.5 L Each		18%
117	Q43637G	Methanol, HPLC Gradient Grade, Qualigens (2.5 L Each)	925.00	18%
118	AAB-A117-10X1AMP	Formic Acid, 99.0+%, Optima™ LC/MS Grade, Fisher Chemical™ (10 X 1 ML)	37,901.00	18%
119	ALF-014249-A1	Ammonium hydrogen carbonate, 99.0%, Thermo Scientific Chemicals (1 KG)	3,229.00	18%
120	YBP2944100	PBS Tablets, Phosphate Buffered Saline, Fisher BioReagents™ (1 pack (100 tablets)	23,320.00	18%
121	ALF-A16046-AE	Triton X-100, Thermo Scientific Chemicals (100 ML)	2,541.00	18%
122	327255000	Glycerol, 99.5%, for molecular biology, DNase, RNase and Protease free, Thermo Scientific Chemicals (500 ML)	9,426.00	18%
123	ALF-A11156.36	Trichloroacetic acid, 99%, Thermo Scientific Chemicals (500 GM)	4,965.00	18%
124	Q15985	Urea (ER ACS), Qualigens (500 GM X2)	3,650.00	18%
125	Q16195	Ammonia Solution, About 30% NH <sub>3</sub> (SO), Qualigens (500 ML)	370.00	18%
126	Q12635	EDTA Disodium Salt Dihydrate (ER), Qualigens (500 GM X2)	3,090.00	18%
127	SP/2322/PB08	Ethanol AR ACS (500 ML X10) (500 ML X10)	27,770.00	18%
128	ALF-A13299-09	Phthalaldehyde, 98%, Thermo Scientific Chemicals (10 GM)	4,296.00	18%
129	Q4400SP	Acetonitrile (HPLC Gradient Grade), Qualigens (2.5 L)	4,210.00	18%
130	AAB-A456-4	Methanol, Optima™ LC/MS Grade, Fisher Chemical (4 L)	16,945.00	18%
131	Q43096	tert-Butyl Methyl Ether, for HPLC, Qualigens (1 L)	3,655.00	18%
132	Q43567	Iso-Propyl Alcohol, for HPLC, Qualigens (2.5 L)	2,535.00	18%
133	390760025	Chloroform, stabilized with ethanol, for HPLC, Thermo Scientific Chemicals (2.5 L)	12,048.00	18%
134	Q11145	Ammonium Acetate (ER ACS), Qualigens (500 GM)	820.00	18%
135	ALF-A10699-0B	Ammonium formate, 97%, Thermo Scientific Chemicals (5 KG)	5,972.00	18%
136	90114	1M Triethylammonium bicarbonate (TEAB) for TMT experiments	22,547.00	18%
137	15525017	UltraPure™ Sodium Dodecyl Sulfate (SDS)	26,890.00	18%
138	20290	Pierce™ DTT (Dithiothreitol)	27,531.00	18%
139	A39271	Pierce™ Alkylating Reagents	21,296.00	18%
140	90057	Mass Spectrometry Grade Proteases	12,827.00	18%
141	89870	Pierce™ C18 Spin Tips & Columns	22,560.00	18%
142	88513	Pierce™ Protein Concentrators PES, 10K MWCO, 0.5-100 mL	22,682.00	18%

S. Banerjee

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AN ISO 9001:2008 Certified Company  
CIN: U51302DL3806PTC132750

143	85188	Acetonitrile (ACN), LC-MS Grade		
144	51140	Water LC-MS Grade		
145	88329	Pierce™ HeLa Protein Digest Standard	12,120.00	18%
146	85183	Pierce™ Trifluoroacetic Acid (TFA), LC-MS Grade	91,781.00	18%
147	88342	Pierce™ 6 Protein Digest, equimolar, LC-MS grade	69,083.00	18%
148	90113	TMT10plex™ Isobaric Mass Tagging Kit	30,436.00	18%
149	88326	Reserpine standards	4,51,336.00	18%
150	PG82080	Pierce™ Premium Grade TCEP-HCl	23,231.00	18%
151	23011	Pierce™ MMTS (methyl methanesulfonate)	9,631.00	18%
152	90056	Chymotrypsin	20,930.00	18%
153	90053	AspN	42,779.00	18%
154	90054	GluC	31,638.00	18%
155	87782	C18 Tips	29,356.00	18%
156	88512	Pierce™ Protein Concentrators PES, 3K MWCO	44,575.00	18%
157	85183	Pierce™ Trifluoroacetic Acid (TFA), LC-MS Grade	22,610.00	18%
158	23235/ 23275	Micro BCA Kit/ Peptide Quantitation kit	69,083.00	18%
159	A40938	11 Plex TMT yeast digest standards	48,174/ 81,796	18%
160	A40010	Pierce™ LC-MS/MS System Suitability Standard (7 x 5 mixture)	33,895.00	18%
161	ND-ONEC-W	NanoDrop OneC Microvolume UV-Vis Spectrophotometer with Wi-Fi	16,681.00	18%
162	C33239	Qubit 4 Quantitation Starter Kit, with WiFi	33,55,760.00	18%
163	AS1119700C	Multiskan Sky high with Cuvette/ It will work for 51 item also	4,06,927.00	18%
164	89873	C18 Spin columns	18,26,786.00	18%
165	260252	Axygen® 96-well Clear Round Bottom 1.1 mL Polypropylene Deep Well Plate, 5 per Pack, Nonsterile or equivalent that is compatible with Fraction collector	39,205.00	18%
			26,769.00	18%
		PM KIT		
166	00107-01-00033	O-RING, 0.300"IDX, 3.190DX3/32 THK, Viton 884 (Q-3)	29,50,000.00	
167	00107-01-00057	O-RING, 2-004, (1.78x1.78) VITON, V884-75 (Q-2)	included	
168	00107-01-00071	O-RING, .125"IDX, 1.03TK, 2-104, V884-75, RoHS (Q-3)	included	
169	00107-01-00087	O-RING, Metric, 4X250, Viton, Duro-A75 RoHS (Q-2)	included	

SBandhyopadhyay

Handwritten signatures and initials: *ca*, *Das*, *NY*, *H*, *SP*, *SP*, *SP*



Handwritten signature: *Sachin*



170	00107-01-00088	O-RING, Metric, 4X155, Viton, Duro-A75 RoHS (Q-2)	included
171	00107-01-00140	WILLS RINGS SEAL, 1450Dx3.18THK, RoHS (Q-2)	included
172	00107-02550	O-RING, 2-006, .114ID X 1/16, VIT, RoHS (Q-5)	included
173	00107-04500	O-RING, 0.312"ID, 1/16" W, Viton V884-75, RoHS (Q-3)	included
174	00107-08902	O-RING, 0.114ID, 1/16TH, VIT (Q-3)	included
175	00107-12775	O-RING, 0.325"ID, 1/16" W, Viton RoHS (Q-3)	included
176	00107-15533	O-RING, 0.362"ID, 1/8", Viton Brown, RoHS (Q-3)	included
177	00108-01-00041	FILTER, DEMISTER, SV65B, FC, RoHS (Q-2)	included
178	00108-02-00070	Flange, NW40, 45 Degree, SS, RoHS (Q-2)	included
179	00109-00307	TUBING, HPLC, PEEK, 1/16ODx0.004IDx5'LG, BLK (Q-5)	included
180	00301-15517	HAZMAT, CHEM, ANGIOTENSIN 1, 1mg VIAL (Q-1)	included
181	00725-01-00027	SWABS, Micro-Mesh Polishing (Q-5)	included
182	70005-20842	Gasket, C.F. Type, FETD OVEN (Q-2)	included
183	70005-20922	SEAL, ITT 1/4 TURN (Q-5)	included
184	70005-22071	VIAL, SAMPLE ENCLOSURE, 8X10.5 (Q-2)	included
185	70111-20971	ADAPTOR, DRAIN HOSE (Q-1)	included
186	80000-10355	AIR FILTER, METAL MESH (Q-1)	included
187	80000-22034	Tube, Trap Helium Feed (Q-1)	included
188	80000-30010	O-RING, VITON, 2-379 ORBI (Q-1)	included
189	80000-60317	HESI/APCI NEEDLE INSERT (Q-2)	included
190	80000-60398	ESI "LOW FLOW" NEEDLE INSERT (Q-5)	included
191	80000-62013	MS Calibration kit (Q-2)	included
192	80000-62100	KIT - ETD REAGENT ION SOURCE (Q-1)	included
193	8000-60151	ESI STD NEEDLE INSERT (Q-2)	included
194	80100-20646	SWEEP-CONE, 3.1 BORE (Q-1)	included
195	80100-62008	KIT, PERFORMANCE SPECIFICATION (Q-1)	included
196	80100-62010	KIT, O-RINGS (Q-2)	included
197	80500-20045	TUBE, I.T., 1/4 TURN, 2.5 DIA, (.6X1.5) (Q-2)	included
198	97055-60084	ASSY, VENT VALVE, LTQ (Q-1)	included
199	HAZMAT-01-00044	KIT, FUNCTIONALITY TEST STANDARD, LCMS (Q-2)	included
200	HAZMAT-01-00063	Lubricant Oil, Pump SOEVAC SV40B (Q-20)	included
201	HAZMAT-01-00081	Reserpine Standard, 100pg/vL, 5x1mL (Q-2)	included
202	HAZMAT-01-00083	Enfuvirtide, 90mg (Q-1)	included
203	HAZMAT-01-00092	Fluoranthene, Supelco 48535, 5g, Bottle (Q-3)	included
204	HAZMAT-01-00130	Cal Solution, FlexMix, 10mL (Q-5)	included
205	OPTON-30139	HESI LOFLO needle (Q-5)	included
206	OPTON-30694	HESI HIFLOW NEEDLE INSERT 100UM (Q-5)	included
207	option-30894	HESI needle 32 gauge	54,473.00
208	BRE0019927	Vacuum pump oil	32,207.00
209	6042-2390	Column out Flow line	43,311.00
210	6040-2304 (Viper Union)	Red Peek Union	3,426.00

S. Bandyopadhyay

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211	00109-99-00016	Peek Nut Finger Tight	
212	00101-18195	Red Peek Nut	
213	00101-18196	Ferrule for Red Peek Nut	4,293.00
214	6850.1911 (25ul)	Loop 20uL	3,625.00
215	ES542	Emitter Spray Needle	57,952.00
216	80500-20045	ion Transfer Capillary (Orbitrap Ascend)	75,229.00
217	00301-01-00040	Syringe, 500µL, Gas Tight	1,03,003.00
218	70005-20922	Graphite O-ring (TT)	71,533.00
219		Sample Loop 20 mL nanoviper WPS	45,047.00
220	LC model?	PM/service Kit for nano-LC	39,652.00 1,30,679 / 85,814.00/ 123,991.00
221	6040.1956B (VF-P10)	PM/service Kit for UHPLC	1,30,679.00
222	6040.1954A (VF-P20)	PM/service Kit for UHPLC	85,814.00
223	6040.1955B (VF-P32)	PM/service Kit for UHPLC	123,991.00
224	ES542	Emitter Spray Needle	75,229.00
225	6250.5260	Column out Flow line	32,795.00
226	00101-18182 (2DV union)	Red Peek Union	19,531.00

GST Charge extra. As applicable  
 Make: All above items from Thermo fisher scientific



Authorized Signatory

*Handwritten signatures:*  
 [Signature 1] [Signature 2] [Signature 3] [Signature 4] [Signature 5] [Signature 6]



		PM KIT	Price In INR	GST
			1,030.00	18%
166	00107-01-00033	O-RING, 0.300"IDx.3.190DK3/32 THK, Viton 884 (Q-3)	774.00	18%
167	00107-01-00057	O-RING, 2.004, (1.78x1.78) VITON,V884-75 (Q-2)	510.00	18%
168	00107-01-00071	O-RING, .125"IDx. 103TK, 2-ID4,V884-75, RoHS(Q-3)	10,844.00	18%
169	00107-01-00087	O-RING, Metric,4X250, Viton, Duro-A75 RoHS (Q-2)	10,844.00	18%
170	00107-01-00088	O-RING, Metric,4X155, Viton, Duro-A75 RoHS(Q-2)	80,609.00	18%
171	00107-01-00140	WILLS RINGS SEAL, 146ODx3.18THK, RoHS (Q-2)	302.00	18%
172	00107-02550	O-RING, 2.005, .114ID X 1/16, VIT, RoHS (Q-5)	155.00	18%
173	00107-04500	O-RING, 0.312"ID, 1/16" W, Viton V884-75, RoHS (Q-3)	609.00	18%
174	00107-05902	O-RING, 0.114ID, 1/16TH, VIT (Q-3)	1,643.00	18%
175	00107-12775	O-RING, 0.325"ID, 1/16" W, Viton RoHS (Q-3)	2,196.00	18%
175	00107-15533	O-RING, 0.362"ID, 1/8", Viton Brown, RoHS (Q-3)	57,043.00	18%
177	00108-01-00041	FILTER, DEMISTER, SV65BI FC, RoHS (Q-2)	64,336.00	18%
178	00108-02-00070	Flange, NW40, 45 Degree, SS, RoHS(Q-2)	9,593.00	18%
179	00109-00307	TUBING, HPLC PEEK, 1/16ODx0.004IDx5 LG, BLK (Q-5)	7,629.00	18%
180	00301-15517	HAZMAT, CHEM, ANGIOTENSIN 1, 1ml VIAL (Q-1)	7,733	18%
181	00725-01-00027	SWABS, Micro-Mesh Polishing (Q-5)	10,526.00	18%
182	70005-20842	GasKt, C.F. Type, PETO QVEN(Q-2)	45,047.00	18%
183	70005-20922	SEAL, ITT 1/4 TURN(Q-5)	14,703.00	18%
184	70005-22071	VIAL, SAMPLE ENCLOSURE, 8x10.5(Q-2)	23,940.00	18%
185	70111-20971	ADAPTOR, DRAIN HOSE(Q-1)	46,369.00	18%
186	80000-10355	AIR FILTER, METAL MESH (Q-1)	5,937.00	18%
187	80000-22034	Tube, Trap Helium Feed(Q-1)	10,844.00	18%
188	80000-30010	O-RING, VITON, 2-379 ORBI (Q-1)	84,864.00	18%
189	80000-60317	HESI/APCI NEEDLE INSERT(Q-2)	64,220.00	18%
190	80000-60398	ESI "LOW FLOW" NEEDLE INSERT(Q-5)	1,46,638.00	18%
191	80000-62013	MS Calibration kit(Q-2)	1,84,326.00	18%
192	80000-62100	KIT - ETD REAGENT ION SOURCE(Q-1)	56,405.00	18%
194	80100-20646	SWEEP CONE, 3.1 BORE(Q-1)	2,57,951.00	18%
195	80100-62008	KIT, PERFORMANCE SPECIFICATION (Q-1)	12,584.00	18%
196	80100-62010	KIT, O-RINGS (Q-2)	1,03,003.00	18%
197	80500-20045	TUBE, I.T, 1/4 TURN, 2.5 DIA, (6X1.6)(Q-2)	1,08,043.00	18%
198	97055-60084	ASSY, VENT VALVE, LTO (Q-1)	15,894.00	18%
199	HAZMAT-01-00084	KIT, FUNCTIONALITY TEST STANDARD, LCMS (Q-2)	3,99,460	18%
200	HAZMAT-01-00063	Lubricant Oil, Pump SOEVAC SV40B(Q-20)	48,648.00	18%
201	HAZMAT-01-00081	Reserpine Standard, 100pg/ul, 5x1ml (Q-2)	96,420.00	18%
202	HAZMAT-01-00063	Enfuvirtide, 90mg(Q-1)	2,71,534.00	18%
203	HAZMAT-01-00092	Fluoranthene, Supelco 48535, 5g, Bottle(Q-3)	3,22,955.00	18%
204	HAZMAT-01-00130	Cal Solution, FlexMix, 10ml(Q-5)	3,46,900.00	18%
205	OPTON-30139	HESI LOFLO needle (Q-5)	2,72,365.00	18%
206	OPTON-30694	HESI HIFLOW NEEDLE INSERT 100UM (Q-5)		

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**TECHNICAL COMPLIANCE**



**Technical Specifications for High Resolution Mass Spectrometer (HRMS) and Accessories (I No.)**

S No	Tender Specification	Bidder Specification	Remarks
	Scopes and Applications:		
I.	The Mass Spectrometer (MS) in combination with appropriate Liquid Chromatography (LC) set up will primarily be used for qualitative and quantitative discovery or shotgun proteomics, targeted proteomics and post-translational modification analyses. The application will not be limited to proteomics only rather be extended for discovery metabolomics and lipidomics analyses as well. Appropriate most advanced software will be installed to analyze proteins, peptides, metabolites, and lipids.	We have quoted Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer in combination with Vanquish Flex quaternary Liquid Chromatography (LC) set up to be used for qualitative and quantitative discovery or shotgun proteomics, targeted proteomics and post-translational modification analyses. Quoted system will not be limited to proteomics only rather be extended for discovery metabolomics and lipidomics analyses as well. Appropriate most advanced software will be installed to analyze proteins, peptides, metabolites, and lipids.	No deviation
II.	The MS should have to be equipped with one Quadrupole (Q) ion filter, an additional ion filter or analyzer, one fragmentation chamber and one high resolution mass analyzer (tribrid MS technology).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer is equipped with one Quadrupole (Q) ion filter, an additional ion filter or analyzer, one fragmentation chamber and one high resolution mass analyzer (tribrid MS technology).	No deviation
III.	The system should have latest dedicated software for all usage including available databases for analysing proteomics, metabolomics and lipidomics workflows.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer will have latest dedicated software for all usage including available databases for analysing proteomics, metabolomics and lipidomics workflows.	No deviation
IV.	The MS must be available with high efficiency ion sources, Ultra-High-Performance Liquid Chromatography (UHPLC), Micro-flow Liquid Chromatography, Nano-flow Liquid Chromatography (NLC), Autosampler, ionization source, Nitrogen generator systems and precession AC.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer will be supplied with high efficiency ion sources, Ultra-High-Performance Liquid Chromatography (UHPLC), Micro-flow Liquid Chromatography, Nano-flow Liquid Chromatography (NLC), Autosampler, ionization source, Nitrogen generator systems and precession AC.	No deviation
	Technical Specifications		
A.	High Resolution Mass Spectrometer (HRMS):	Model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer	No deviation
1.	The HRMS instrument must be equipped with a high-resolution mass analyzer.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer is HRMS instrument equipped with a high-resolution mass analyzer i.e. ORBITRAP.	No deviation
2.	The MS should have a quadrupole ion filter followed by a Collision/fragmentation cell and high-resolution accurate mass analyzer for both the MS and MS/MS analyses.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer have a quadrupole ion filter followed by a Collision/fragmentation cell and high-resolution accurate mass analyzer for both the MS and MS/MS analyses.	No deviation
3.	The instrument must contain an additional ion filter/analyzer (with variable pressure control) which can deliver high resolution spectra and must be able to perform parallel accumulation to achieve nearly 100% duty cycle.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer contain an additional ion filter/analyzer (with variable pressure control) which can deliver high resolution spectra able to perform parallel	No deviation

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		accumulation to achieve nearly 100% duty cycle. (Supporting document needs to be provided)	
4.	The system should be capable of performing intact protein mass identification, peptide mass fingerprinting, and precursor ion selection followed by high energy fragmentation to generate high resolution MS/MS and high order of MS spectra.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer can perform intact protein mass identification, peptide mass fingerprinting, and precursor ion selection followed by high energy fragmentation to generate high resolution MS/MS and high order of MS spectra.	No deviation
5.	The system should be capable of performing Parallel Reaction Monitoring (PRM) and Selected Ion Monitoring (SIM) type of targeted proteomics experiment.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer can perform Parallel Reaction Monitoring (PRM) and Selected Ion Monitoring (SIM) type of targeted proteomics experiment.	No deviation.
6.	Mass filter/analyzer must have the capacity to sort low masses with m/z 50 or below, and high mass range of m/z 15000 or higher (single charge, supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer have the capacity to sort low masses with m/z 50 or below, and high mass range of m/z 16000 (single charge, supporting document needs to be provided).	Better than asked for
7.	The resolution of 4,50,000 (Full Width at Half Maxima, FWHM) or better at m/z 200 (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has resolution settings range from 7500 to 480,000 (FWHM) at m/z 200, with isotopic fidelity up to 240,000 FWHM.	Better than asked for
8.	Spectral scan speed or acquisition rate have to be at least 45 Hz (spectra/sec) or better in both MS and MS/MS Modes (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has Orbitrap MSn acquisition rates up to 45 Hz when measured using a data-dependent experiment with FlexMix calibration solution, MS and HCD MS/MS resolution setting of 7500 @ m/z 200 and linear ion trap MSn acquisition rates up to 50 Hz using a data dependent experiment with FlexMix calibration.	Better than asked for
9.	Sensitivity with S/N ratio of 100:1 or better for 100 femtograms of reference standard in MS/MS mode (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has sensitivity with 2 µL of a 50 fg/µL solution of reserpine (100 femtograms total) injected at a flow rate of 500 µL/min produces a minimum S/N ratio of 200:1 for the transition of the isolated protonated molecular ions at m/z 609 to the largest two product ions, m/z 397 and m/z 448.	Better than asked for
10.	Mass Accuracy: 1 ppm or better for internal calibration and 3 ppm or better for external calibration (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has External calibration achieves <3 ppm RMS drift over 24 hours, measured with FlexMix; internal calibration achieves <1 ppm RMS drift over 24 hours, measured with FlexMix.	No deviation
11.	Precursor isolation window 0.5 to 2000 m/z or better (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has Standard mass range m/z 40-2000, mid-mass range m/z 200-6000, and optional HMRn+ mass range m/z 500-16,000.	No deviation.
12.	Dynamic range of 5000 or better in a single mass spectrum (Supporting document needs to be provided).	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has >5000 within a single Orbitrap mass spectrum.	No deviation

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13.	Automated internal source for both +ve and -ve modes of ionization during the calibration.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has automated internal source for both +ve and -ve modes of ionization during the calibration.	No deviation
14.	The system should include a Collision cell for Collision induced dissociation (CID) where highenergy CID option needs to be provided as well.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has a Collision cell for Collision induced dissociation (CID) where high energy CID option provided as well.	No deviation
15.	Optional Electron Transfer Dissociation (ETD) fragmentation for understanding the post-translational modifications like phosphorylation, acetylation, methylation etc. of proteins.	We have quoted optional Electron Transfer Dissociation (ETD) fragmentation for understanding the post-translational modifications like phosphorylation, acetylation, methylation etc. of proteins.	No deviation
16.	Vacuum must reach better than $10^{-4}$ Torr. Must be an oil free vacuum backing pump.	Our quoted model Thermo Fisher Orbitrap Ascend Tribrid Mass Spectrometer has vacuum better than $10^{-9}$ Torr. have an oil free vacuum backing pump.	No deviation
17.	Quantification in MS3 and higher level (up to MS10) is required for isobaric quantification. Real-time protein database search to perform the MS3 analysis needs to be provided. The technique will potentially enhance the accuracy and coverage of quantitative proteomics data.	The standard for high-throughput quantitative comparisons of protein abundances is the IMPS SPS MS3 workflow, unique to Thermo Scientific™ Orbitrap™ Tribrid mass spectrometers. A significant advancement of the Orbitrap Ascend Tribrid mass spectrometer is Real-Time Search, which can be used to identify peptide spectra on-the-fly to intelligently direct MS3 data acquisition, resulting in accurate quantitation to depths often exceeding 8,000 proteins in up to 16 samples per LC/MS analysis.	No deviation
18.	Precursor multiplexing is recommended where up to 20 precursors can be multiplexed in a quadrupole mass filter to increase throughput of tandem MS data in a very short period.	Precursor multiplexing is recommended where up to 20 precursors can be multiplexed in a quadrupole mass filter to increase throughput of tandem MS data in a very short period.	No deviation
19.	The equipment must be capable of performing both qualitative and quantitative analysis with high sensitivity, accuracy, precision, and reproducibility. These include both labelled proteomics methods like SILAC, TMT, iTRAQ and label-free proteomics methods.	Our quoted model is capable of performing both qualitative and quantitative analysis with high sensitivity, accuracy, precision, and reproducibility. These include both labelled proteomics methods like SILAC, TMT, iTRAQ and label-free proteomics methods.	No deviation
20.	The equipment must be capable of performing quantitative proteomics for 18-plex sample. A single LCMS/MS run will be conducted to generate the 18-plex quantitative proteomics data. The 18-plex sample will be a single sample which can be prepared by pooling 18 different phenotypes (samples) in a single vial.	A significant advancement of the Orbitrap Ascend Tribrid mass spectrometer is Real-Time Search, which can be used to identify peptide spectra on-the-fly to intelligently direct MS3 data acquisition, resulting in accurate quantitation to depths often exceeding 8,000 proteins in up to 16 samples per LC/MS analysis.	No deviation
21.	The system should have the complete auto-calibration capability to set all relevant voltages automatically during external calibration.	The system offered system have the complete auto-calibration capability to set all relevant voltages automatically during external calibration.	No deviation
22.	In-house facility has to be there at Delhi/NCT region.	We have in house facility in Delhi, with office in NOIDA, GORGAON and CSC lab facility in NPL Indrapuram Ghaziabad.	No deviation
23.	Vendor should provide appropriate bench for the mass spectrometer.	Bench for the mass spectrometer is in built, will be supplied along with main instrument.	No deviation

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B.	Ultra-High-Performance Liquid Chromatography System (UHPLC) with Auto-sampler and Fraction Collector.	We have offered SYSTEM BASE VANQUISH FLEX QUATERNARY Ultra-High-Performance Liquid Chromatography System (UHPLC) with Auto-sampler and Fraction Collector FRACTION COLLECTOR FI.	No deviation.
1.	The system should have binary/quaternary gradient pump with facility for solvent degassing and auto-sampler unit washing and rinsing.	We have offered SYSTEM BASE VANQUISH FLEX QUATERNARY Ultra-High-Performance Liquid Chromatography System (UHPLC) with facility for solvent degassing Built-in, 4 channels and auto-sampler unit Split Sampler FT (VF-A10-A-02) washing and rinsing.	No deviation.
2.	Flow rate limit has to be 5 µl/min - 5 mL/min or better with 1 µl/min increment.	We have quoted Quaternary Pump F with flow rate 0.001-8 mL/min, in 1 µL/min increments	Better than asked for
3.	Maximum back pressure of 1000 bar or less and flow accuracy of ±0.1% or better.	Back pressure 2 - 103 MPa (20 - 1034 bar, 290 - 15,000 psi). With a flow rate of above 5 mL/min, the pressure range decreases linearly down to 80 MPa (800 bar, 11,600 psi)	Better than asked for
4.	System delay volume should be less than 700 µL for total system.	System delay volume is 679 µL (default configuration) for total system.	No deviation.
5.	Type of gradient: Linear and non-linear.	Quoted Quaternary Pump F (VF-P20-A ) has Linear and non-linear gradient.	No deviation.
6.	pH range: 2-12 pH.	pH range 2-12, chloride concentration up to 1 mol/L	No deviation
7.	Mobile phase reservoir system to accommodate at least 4 bottles each of 1 L with cork and frit.	Mobile phase reservoir system accommodate 4 bottles each of 1 L with cork and frit.	No deviation
8.	The auto-sampler should have capacity to hold microtiter plates (96/384 well plates) or multiple sample vial in at least 2 racks (at least 48 numbers of 1.5-2 ml vials in each rack).	The auto-sampler have capacity any four of the following (SBS footprint) • 54 × 12 mm OD vials (≤1.5 mL) • 96 × 6, 7 and 8 mm OD vials (≤1.2 mL) • 16 × 15 mm OD vials (≤4 mL) • 9 × 22.5 mm OD vials (≤10 mL) • well plates (96 and 384, deep and shallow) • capacity of 12 × 22.5 mm OD vials (≤10 mL) in the carousel	Better than asked for
9.	Injection loop volume must be in range of 0.01 µl to 50 µl or better.	We have quoted SAMPLE LOOP, 100 µL BIOCOMP (6850.1913) Injection loop volume range 0.01-100 µL, min. step = 0.01 µL	Better than asked for
10.	Auto-sampler will have temperature range between 5°C to 40°C or better.	4-40 °C (±23 K below ambient at <80% RH)	Better than asked for
11.	Sample carry over have to be lower than 0.02% for any suitable molecule.	<0.002% with caffeine (typically: <0.0004%)	Better than asked for
12.	The temperature of column compartment should be in 10°C to 100°C range or better with 1.0°C increments.	The temperature of column compartment is 5-120 °C in 0.1 °C increments	Better than asked for
13.	Temperature accuracy and stability must be ±1.0°C.	Temperature accuracy and stability ±0.5 °C (up to 80 °C)	Better than asked for
14.	Column oven can hold at least two HPLC columns of length ≥ 15 cm.	Column oven can hold two HPLC columns of length ≥ 15 cm.	No deviation.
15.	Automated fraction collector must be installed with dedicated software support.	We have quoted Automated fraction collector FRACTION COLLECTOR F (VF-F11-A-01) with Thermo Scientific™ Chromleon™ Chromatography Data System dedicated software support.	No deviation

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16.	Variable Wavelength Detector (VWD) with wavelength range of 190-800 nm or better with linearity option of 2.0 AU or more.	We have quoted VARIABLE WAVELENGTH DETECTOR F with wavelength range of 190-800 nm with linearity option of 2.0 AU	Better than asked for
17.	UHPLC and HRMS should have single-point control with the software and automatic IQ/OQ/PQ abilities.	In built Xcalibur software is the control software for the next generation UHPLC and HRMS have single-point control with the software and automatic IQ/OQ/PQ abilities. Access all instrument capabilities for robust control of Thermo Scientific MS systems. Transfer acquired files to a secure, central location immediately after acquisition.	No deviation
18.	The manufacturer must quote for UHPLC spares/seals/connection tubing for leak-free operations and quick maintenance.	We have quoted for UHPLC spares/seals/connection tubing for leak-free operations and quick maintenance.	No deviation
C.	Micro-flow and Nano-flow LC System (with inbuilt Auto-sampler):	We have quoted Vanquish Neo UHPLC System (VN-S10-A-01) with built in Binary Pump N, Split Sampler NT, Solvent Rack, Vanquish User Interface (VUI). System base with drawer, Ship kit. The Ship kit includes all items required for following workflows: Direct injection Trap-and-elute (2-column setup) Heated trap-and-elute (requires Column Compartment N and 1 x 2pos-6port valve) The new standard in nano-, capillary, and micro-flow LC.	No deviation
1.	The complete Nano LC system with MS should have a single point software-based control.	Quoted Nano LC system with MS have In built Xcalibur software is the control software for the next generation Nano LC and HRMS a single point software-based control. Access all instrument capabilities for robust control of Thermo Scientific MS systems. Transfer acquired files to a secure, central location immediately after acquisition.	No deviation
2.	System should have nano-flow and it must be split less (without split) to avoid buffer wastage.	Quoted system have nano-flow split less (without split) to avoid buffer wastage.	No deviation
3.	System should have the proper in-built degasser system to remove air bubbles. If the system is not provided with degasser, then it should have proven bubble-free technology.	Quoted Vanquish Neo UHPLC System (VN-S10-A-01) have the proper in-built degasser system to remove air bubbles.	No deviation
4.	System should have high pressure binary gradient pump and an additional isocratic pump.	We have Quoted ISOCRATIC PUMP C (VC-P40-A-01) system have high pressure binary gradient pump and an additional isocratic pump.	No deviation
5.	Operating Pressure range up to 1500 bar.	Operating Pressure range up to 150 MPa. (1500 bar, 21,750 psi)	Better than asked for
6.	Flow rate should be in a range of 10 nL/min - 100 µL/min or better in 1 nL increment.	Flow rate in a range of 1 nL/min - 100 µL/min or better in 1 nL increment.	Better than asked for
7.	pH has to be in a range pH = 2-10.	pH has is in a range pH = 2-10.	No deviation
8.	Retention time and carry over precision have to be ≤ 0.2%.	Retention time and carry over precision <0.2% RSD or ≤0.1 SD min whichever is greater for IQ/OQ/PQ/SYTDANK Cytochrome C protein digest peptide based on the installation qualification procedure	No deviation

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9.	System should have an integrated switching valve for 1D and 2D configuration.	System should have an integrated switching valve for 1D and 2D configuration.	
10.	The manufacturer must quote for nano-LC spares/connection tubing for leak-free operations and quick maintenance.	We have quoted for nano-LC spares/connection tubing for leak-free operations and quick maintenance.	No deviation
11.	Autosampler should have a programmable injection system.	Autosampler have a programmable injection system.	No deviation
12.	Should have the capacity for different types of sample vials, tubes, and plates.	Sample formats and capacity Any four of the following: <ul style="list-style-type: none"> <li>• 54 × 12 mm OD vials (≤1.5 mL)</li> <li>• 96 × 6, 7, and 8 mm OD vials (≤1.2 mL)</li> <li>• 16 × 15 mm OD vials (≤4 mL)</li> <li>• 9 × 22.5 mm OD vials (≤10 mL)</li> <li>• Well plates (96 and 384, deep and shallow, with SBS footprint)</li> <li>• capacity of 12 × 22.5 mm OD vials (≤10 mL) in the carousel</li> </ul>	Better than asked for
13.	The system should control temperature of the sample from 4°C – 40°C programmable in 1°C increments.	The quoted system have control temperature of the sample from 4°C – 40°C programmable in 1°C increments.	No deviation
14.	System should have leak detection, safe leak handling, excess pressure monitoring and temperature monitoring options.	Quoted system have leak detection, safe leak handling, excess pressure monitoring and temperature monitoring options.	No deviation
15.	Autosampler injection volume have to be in a range of 100 nl to 25 µL or better.	Autosampler injection volume Injection volume range Default: 0.01–25 µL, min step 0.01 µL.	No deviation
16.	Reproducible injection volume with RSD ≤ 0.25% on and above 2 µL injection.	Injection volume precision From 0.05 to 0.20 µL: ≤5.0% RSD From 0.20 to 0.50 µL: <1.5% RSD From 0.50 to 2.00 µL: <0.5% RSD Above 2µL: <0.25% RSD	Better than asked for
17.	Gradient delay volume should have to be ≤ 25 nL.	Contribution of the pump to the system gradient delay volume ≤25 nL.	No deviation
D.	Ion source:	We have quoted Ion source Thermo Scientific™ Ion Max NG™ ion source.	No deviation
1.	System should be provided with most advanced Nano-ESI, ESI and APCI sources with ease of interchange ability without venting/breaking the vacuum.	System will be provided with most advanced Nano-ESI, ESI and APCI sources with ease of interchange ability without venting/ breaking the vacuum.	No deviation.
2.	For Nano ESI application suitable source/s must be provided for using long/customized/self-packed or ready to use plug & play-columns with minimum dead volume.	For Nano ESI application EASY-Spray Source Kit (NG) is provided for using long/customized/self-packed or ready to use plug & play-columns with minimum dead volume.	No deviation.
3.	Mode of ionization: Positive and Negative.	Mode of ionization: Positive and Negative.	No deviation
4.	Polarity-switching and stabilization time should be <1.1 sec.	One full experimental cycle acquired in <1.1 seconds where the cycle consists of acquiring one full MS scan in positive and negative polarity at a resolution setting of 30,000	No deviation
5.	ESI source must be capable to handle flow rate up to 1mL/min and 2mL/min for APCI.	ESI source is capable to handle flow rate up to 1mL/min and 2mL/min for APCI.	No deviation
6.	The ionization source (ESI, APCI, Nano ESI Sprayer) should have Plug and play probes.	The ionization source (ESI, APCI, Nano ESI Sprayer) have Plug and play probes.	No deviation

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7.	Should have provision to accommodate 15 cm to 50 cm columns or better.	Quoted system have provision to accommodate 15 cm to 50 cm columns or better.	Better than asked for
8.	Should have column oven compartment with operating temperature range between 30°C - 50°C or better.	column oven compartment with operating temperature range Min: 5 K above room temperature Max: 80 °C without valves installed Max: 60 °C with Vanquish valves installed	
E.	Modes of operation:		
1.	MS Scanning or peptide precursor scanning.	MS Scanning or peptide precursor scanning.	No deviation
2.	MS/MS product ion Scanning.	MS/MS product ion Scanning.	No deviation
3.	Simultaneous MS & MS/MS scanning. The software should be capable of data acquisitions whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.	Simultaneous MS & MS/MS scanning. The software is capable of data acquisitions whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.	No deviation
4.	SIM/PRM or related method to validate shotgun proteomics data.	SIM/PRM or related method to validate shotgun proteomics data.	No deviation
5.	The acquisition software should allow for automated DDA and DIA acquisitions where MS/MS (MS2), MS/MS/MS (MS3) and higher order of MS can be acquired simultaneously.	The acquisition software Proteome Discoverer 3.3 software with 1 Year CHIMERYS (latest upgraded version of software will be supplied) Bottom-up peptide and protein Identification • Label-Free Quantification (LFC) • Isobaric Mass Tagging Peptide Quantification • Single-cell proteomics • Immunopeptidomics • Metaproteomics • Top-down Proteoform Identification and Quantification with Thermo Scientific™ ProSightPD™ software • Post-Translational Modification (PTM) Analysis Accommodates nodes for top-down (ProSightPD) and structural biology and cross-linking analysis (XL-MS) allow for automated DDA and DIA acquisitions where MS/MS (MS2), MS/MS/MS (MS3) and higher order of MS can be acquired simultaneously.	No deviation
6.	The operation should have internal mass correction technique for better mass accuracy.	Thermo Scientific™ EASY-IC™ ion source • Generates internal calibrant ions for real-time mass calibration of spectra in positive and negative modes • Provides <1 ppm RMS drift over 24 hours, measured with Flex Mixhave internal mass correction technique for better mass accuracy.	No deviation
7.	Syringe pump or equivalent have to be installed for direct infusion of samples.	Syringe pump is installed for direct infusion of samples.	No deviation
F.	Operating Software and Data System:		
1.	Latest software required for LCMS data acquisition and protein, peptide, lipid and metabolite analyses.	We have quoted Proteome Discoverer 3.3 software, LIPIDSEARCH 5.1, HRAM SINGLE USER SW, COMPOUND DISCOVERER 3.3 We here by confirm to supply latest version of	No deviation

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2.	The system should perform Data Dependent Analysis (DDA), Data Independent Analysis (DIA), Selected Ion Monitoring (SIM) and Parallel Reaction Monitoring (PRM) acquisitions.	The quoted system perform Data Dependent Analysis (DDA), Data Independent Analysis (DIA), Selected Ion Monitoring (SIM) and Parallel Reaction Monitoring (PRM) acquisitions.	No deviation
3.	The software should be capable of DIA whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.	The software is capable of DIA whereby high and low collision energy data is acquired simultaneously to provide fragmentation data for all detectable molecular ions.	No deviation
4.	The system should provide quantitative MS/MS (MS2) data at fast LC speeds from a data independent acquisition (DIA) method, even when compounds have coelution issue.	The quoted system provide quantitative MS/MS (MS2) data at fast LC speeds from a data independent acquisition (DIA) method, even when compounds have coelution issue.	No deviation
5.	Dedicated workstation should be provided for data acquisition, shotgun and targeted Proteomics and Metabolomics and lipidomics workflows.	Dedicated workstation is provided for data acquisition, shotgun and targeted Proteomics and Metabolomics and lipidomics workflows.	No deviation
6.	Multiple search engines to perform qualitative and quantitative proteomics analysis.	Multiple search engines to perform qualitative and quantitative proteomics analysis.	No deviation
7.	Label-free and isobarically labelled methods can be performed.	Label-free and isobarically labelled methods can be performed.	No deviation
8.	Data analysis for MS2, MS3 or higher order (up to 10) of masses.	Data analysis for MS2, MS3 or higher order (up to 10) of masses.	No deviation
9.	Sample comparisons across multiple groups, analytical and biological Replicates.	Sample comparisons across multiple groups, analytical and biological Replicates.	No deviation
10.	Capable for intact mass analysis.	We have quoted BioPharma Finder 5.2 All Protein Analysis Workflows: 1- Peptide Mapping 2- Intact Mass 3- and Top Down	No deviation
11.	Metabolomics and Lipidomics analysis - Software must be capable of high-quality small molecule and lipid identification using discovery and targeted Mass Spectrometry approaches.	We have quoted Compound Discoverer 3.3 - Full Version: "Unknown Identification: • Identify compounds using MS/MS libraries • Determine elemental composition using high-resolution full MS isotopes and MS/MS data • Search online chemical databases • Gain confidence in ID with automated MSn tree search against mzCloud" "Perform spectral library and similarity searches to identify compounds" • Search chemical databases for putative candidates • Annotate spectra with predicted fragmentation, automatically" "Perform statistics and differential analysis using t-tests, ANOVA, PCA, PLS-DA, volcano plots, box-and-whisker plots, and more" • View trend charts to visualize peak areas, average peak area per group or fractional label incorporation over time • Review heatmaps of peak areas, CV values, adjusted p-values, and more" LipidSearch™ 5.1 Software for Lipidomics	No deviation

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		analysis. Thermo Scientific Xcalibur software provides automated identification of lipids and integrates an entire dataset into a concise report showing statistical differences between sample groups 1- Data Analysis Module -Peak Detection • Raw data file reading • Smart peak detection 2- Identification Module -Lipid Identification  • Group-specific ID (targeted)	
12.	Capable of data Acquisition and normalization; qualitative and quantitative analyses; peptide identification and modification.	Software is capable of data Acquisition and normalization; qualitative and quantitative analyses; peptide identification and modification.	No deviation
13.	Capable of statistical analysis (FDR, ANOVA, PCA, hierarchical clustering etc.) and advance analysis like pathways and GO Analyses.	Software is capable of statistical analysis (FDR, ANOVA, PCA, hierarchical clustering etc.) and advance analysis like pathways and GO Analyses.	No deviation
14.	Flexible report generator for information sharing Quality Metrics, a rapid visual check of sample measurements and analytical quality.	Software is Flexible report generator for information sharing Quality Metrics, a rapid visual check of sample measurements and analytical quality.	No deviation
15.	Single platform of the software is must for controlling simultaneously LC-ESI-MS, autosampler, vacuum pump, gases and all other modes. The software should have controlled auto tune to enable quick start-up of the analysis.	We have quoted Single platform In built Xcalibur software is the control software for the next generation for controlling simultaneously LC-ESI-MS, autosampler, vacuum pump, gases and all other modes. The software controlled auto tune to enable quick start-up of the analysis. Access all instrument capabilities for robust control of Thermo Scientific MS systems. Transfer acquired files to a secure, central location immediately after acquisition	No deviation.
16.	The system should have windows based, easy to use and versatile.	The quoted system have windows based, easy to use and versatile.	No deviation
17.	Vendor should provide appropriate data storage, data archival, data retrieval, hardware (workstations, servers, data processing systems) and software (cloud-based servers and licensed thereof).	We have quoted PC Configuration: Intel Core i7, 32 GB RAM, SATA Solid State Drive 512 GB Class 20, 1TB 7200 rpm Hard Disk Drives, Windows 10 IoT Enterprise, Intel Integrated Graphics, Optical DVD+-RW Drive, USB Wired Keyboard and USB Laser Mouse, 10 USB 2.0 ports - 4 in the front, LAN cards (internet and system), 1 eSATA, 1 HDMI, 24-inch TFT flat screen color monitor or equivalent or better appropriate data storage, data archival, data retrieval, hardware (workstations, servers, data processing systems) and software (cloud-based servers and licensed thereof).	No deviation
0.	Configuration of computers with suitable keyboard & Mouse (4 numbers):	Configuration of computers with suitable keyboard & Mouse (4 numbers):	No deviation
1.	Data acquisition computer system should be provided with suitable configuration capable of running large data files and instrument operational software.	Data acquisition computer system will be provided with suitable configuration capable of running large data files and instrument operational software.	No deviation
2.	Preferable Processor: Intel Core i7® or Xeon® Processor (at least 16 cores with most advanced and suitable configuration for big data analysis).	Preferable Processor: Intel Core i7® or Xeon® Processor (at least 16 cores with most advanced and suitable configuration for big data analysis).	No deviation

*S. Chandrasekhar*

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3.	Operating system: Windows 11 or better, 64 bit or better.	Operating system: Windows 11 or better, 64 bit or better.	No deviation
4.	Latest MS office (Office 365 or better).	Latest MS office (Office 365 or better).	No deviation
5.	Motherboard: TPM Enabled or better.	Motherboard: TPM Enabled or better.	No deviation
6.	Two numbers of internal SSD hard drive of 5TB (total of 10 TB) or better for each system.	Two numbers of internal SSD hard drive of 5TB (total of 10 TB) or better for each system.	No deviation
7.	RAM: 128 GB or better.	RAM: 128 GB or better.	No deviation
8.	There must be scope for further expansion of memory and storage for future upgradations.	There must be scope for further expansion of memory and storage for future upgradations.	No deviation
9.	27-inch HD monitor display or better.	27-inch HD monitor display or better.	No deviation
	Supplied console should come with the necessary software loaded for operation, data collection and data processing.	Supplied console with the necessary software loaded for operation, data collection and data processing.	No deviation
	Latest original company licensed software with life-time validity and new versions of software developed during 5 years warranty period should be provided free of cost.	Latest original company licensed software with life-time validity and new versions of software developed during 5 years warranty period will be provided free of cost.	No deviation
	The most advanced version of software should have capabilities to perform the following functions -	The most advanced version of software with capabilities to perform the following functions --	No deviation
i.	Automated calibration and quantitative optimization.	We have quoted in built Xcaliber software for automated calibration and quantitative optimization. Access all instrument capabilities for robust control of Thermo Scientific MS systems. Transfer acquired files to a secure, central location immediately after acquisition	No deviation
ii.	Perform positive/negative scans ionization.	We have quoted in built Xcaliber software to perform positive/negative scans ionization. Access all instrument capabilities for robust control of Thermo Scientific MS systems. Transfer acquired files to a secure, central location immediately after acquisition	No deviation
iii.	Analysis of bottom-up proteomics (DDA, DIA and targeted).	We have quoted, Proteome Discoverer 3.0 software (OPTON-31099) for analysis of bottom-up proteomics (DDA, DIA and targeted). Bottom-up peptide and protein identification • Label-Free Quantification (L.F.Q.) • Isobaric Mass Tagging Peptide Quantification • Single-cell proteomics • Immunopeptidomics • Metaproteomics • Top-down Proteoform Identification and Quantification with Thermo Scientific™ ProSightPD™ software • Post-Translational Modification (PTM) Analysis Accommodates nodes for top-down (ProSight PD) and structural biology and cross-linking analysis (XL-MS)	No deviation
iv.	Analysis of Top-down proteomics (intact and native proteins).	We have quoted BioPharma Finder 5.2 All Protein Analysis Workflows: 1- Peptide Mapping 2- Intact Mass 3- and Top Down	No deviation

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v.	Analysis of isobaric tag-based proteomics.	<p>We have quoted Proteome Discoverer 3.0 software (OPTON-31099) for isobaric tag-based proteomics. Proteome Discoverer 3.0 software with 1 Year CHIMERYS : (latest upgraded version of software will be supplied)</p> <ul style="list-style-type: none"> <li>• Bottom-up peptide and protein Identification</li> <li>• Label-Free Quantification (LFQ)</li> <li>• Isobaric Mass Tagging Peptide Quantification</li> <li>• Single-cell proteomics</li> <li>• Immunopeptidomics</li> <li>• Metaproteomics</li> <li>• Top-down Proteoform Identification and Quantification with Thermo Scientific™ ProSightPD™ software</li> <li>• Post-Translational Modification (PTM) Analysis</li> </ul> <p>Accommodates nodes for top-down (ProSightPD) and structural biology and cross-linking analysis (XL-MS)</p>	
vi.	Analysis of metabolites and lipids.	<p>We have quoted Compound Discoverer 3.3 - Full Version: "Unknown Identification:</p> <ul style="list-style-type: none"> <li>• Identify compounds using MS/MS libraries</li> <li>• Determine elemental composition using high-resolution full MS isotopes and MS/MS data</li> <li>• Search online chemical databases</li> <li>• Gain confidence in ID with automated MSn tree search against mzCloud"</li> <li>• Perform spectral library and similarity searches to identify compounds</li> <li>• Search chemical databases for putative candidates</li> <li>• Annotate spectra with predicted fragmentation, automatically"</li> <li>• Perform statistics and differential analysis using t-tests, ANOVA, PCA, PLS-DA, volcano plots, box-and-whisker plots, and more</li> <li>• View trend charts to visualize peak areas, average peak area per group or fractional label incorporation over time</li> <li>• Review heatmaps of peak areas, CV values, adjusted p-values, and more"</li> </ul> <p>LipidSearch™ 5.1 Software for Lipidomics analysis. Thermo Scientific LipidSearch software provides automated identification of lipids and integrates an entire dataset into a concise report showing statistical differences between sample groups</p> <ol style="list-style-type: none"> <li>1- Data Analysis Module -Peak Detection             <ul style="list-style-type: none"> <li>• Raw data file reading</li> <li>• Smart peak detection</li> </ul> </li> <li>2- Identification Module -Lipid Identification             <ul style="list-style-type: none"> <li>• Group-specific ID (targeted)</li> <li>• Comprehensive ID (untargeted)</li> <li>• Scoring algorithms</li> </ul> </li> <li>3-Quantitation Module — Alignment and Quantitation</li> </ol>	No deviation

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		<ul style="list-style-type: none"> <li>XIC peak integration</li> <li>Retention time alignment</li> <li>Relative quantification</li> <li>Statistical analysis</li> </ul>	
vii.	Automated fractionation and detection of fractionated products	Automated fractionation and detection of fractionated products - FRACTION COLLECTOR F (VF-F11-A-01)	No deviation
<b>H. Power Supply and Additional Accessories:</b>			
1.	The system should work at power ratings of 220 Volts and 50 Hz frequency on single/ threephase/Indian power rating.	The system work at power ratings of 220 Volts and 50 Hz frequency on single/ three phase/Indian power rating.	No deviation
2.	Additional vacuum pump which can reach 10 <sup>-3</sup> Torr vacuum or better.	Additional vacuum pump which can reach 10 <sup>-3</sup> Torr vacuum or better.	No deviation
3.	Nitrogen gas generator should have to be portable and highly durable, low noise, vibration free, drying system and auto drain valve with inbuilt compressor. It should be able to supply the gases with at least 15 L/min flow rate at 99.5% purity.	Nitrogen gas generator from PEAK Scientific is portable and highly durable, low noise, vibration free, drying system and auto drain valve with inbuilt compressor. Features Variable flow up to 35 LPM Variable pressure up to 116 psi Multi-Stage Purification™ producing analytical grade nitrogen gas up to 99.5% purity Touch-screen full colour user interface for ease of operation ECO (Electronic Compressor Optimisation™) technology for low energy consumption and compressor durability Next-generation high performance premium compressors, engineered exclusively for Genius XE Smaller & quieter than previous generation of Genius On-board service scheduling and system diagnostics Factory certified purity with respect to O2 content. Actual purity varies in relation to flow (min. 95% at maximum flow output) Noise level expressed as SPL (Sound Pressure Level) measured at 1m from source in a reverberant chamber.	Better specification
4.	Precision Air Conditioner of at least 4 Ton capacity (1 No.) must be provided.	Quoted the same	No deviation
5.	Vendor should provide the dehumidifier to maintain the optimum humidity.	Vendor should provide the dehumidifier to maintain the optimum humidity.	No deviation
6.	Tool kits and calibration kits required for installation and QC of the instrument need to be supplied along with the instrument.	Tool kits and calibration kits required for installation and QC of the instrument will be supplied along with the instrument.	No deviation
7.	Two regulators for gas cylinders.	Quoted two regulators for gas cylinders.	No deviation
8.	Buy Back:		No deviation
	The existing Thermo Scientific "Orbitrap Fusion Tribrid Mass Spectrometer" (S.O.No. - 3/Biophy/17-18; 1 no.) along with Ultimate 3000 UHPLC (1 no.), Easy-NLC (1200 nano-LC (1 no.), Nano-Flex and ESI sources (1 no. each), Peak Scientific nitrogen generator (1 no.) and Vertiv Precision AC (1 no.) may be offered for buy back as decided by the committee. The machine will be handed	Agreed and offered	No deviation

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	over on "as is" basis. All associated costs such as transportation of the existing Orbitrap Fusion Mass Spectrometer along with all accessories and spare parts etc. will be borne the firm and there will be no financial implications on the part of the AIIMS. AIIMS reserves the right to trade or not to trade the equipment. Buy Back Values should not be less than Rs. 2 lakhs.		
J.	Installation:		No deviation
	Installation and on-site operational training courses to at least 2 AIIMS personnel will be provided by the firm at free of cost. Half yearly training and workshops for two years on instrumentation, sample preparation and data analysis for internal students/scholars/faculties must be organized by the vendor or principal company at AIIMS New Delhi.	Agreed	No deviation
K.	Documents:		No deviation
1.	Technical data for all the specification mentioned above including subdivisions.	Agreed	No deviation
2.	Absence of Point I (Buy back) will be taken as not fulfilling the specification.	Agreed	No deviation
3.	Undertaking from the manufacturer to the effect that spare parts will be available for next 10 years.	Agreed	No deviation
4.	Compliance list for specifications including subdivision with technical data sheet.	Agreed	No deviation
5.	Satisfaction certificate about the instrument set up from 3 national/international organizations.	Agreed	No deviation
6.	5 years warranty on all parts and component of the instrument must be provided	Agreed	No deviation
	A 5-year comprehensive warranty for Mass Spectrometer, nano- and micro-LC, UHPLC, ion sources, Nitrogen Generator, AC and all other parts and third-party items is a must. Warranty should be applicable for all spare parts of the instrument as well. The principal firm should certify/authenticate the warranty provided / offered by the authorized firm / vendor on their behalf. Appropriate documentary evidence must be submitted along with the quotation to this effect.	Agreed	No deviation

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# VISION

(An ISO 9001:2008 Certified Co.)  
CIN: U3139/DL/SCOP/TC/132750

M.	Post Warranty CAMC:		
I	Comprehensive annual post-warranty CAMC must be quoted for 5 years after the expiry of the warranty as per AIIMS guideline.  Warranty and CAMC shall be duty of the company to keep the equipment in functional status. All the items required shall be the responsibility of the firm to provide FOC.	Agreed	No deviation
N.	<b>Trained Manpower:</b>		No deviation
I	The firm must provide an onsite skilled-manpower free of cost for the first three years to operate the machine at AIIMS, New Delhi.	Agreed	No deviation
O.	<b>Up-time Guaranty and downtime response:</b>		No deviation
1.	95% uptime in a calendar year should be guaranteed. Default will invite a fine of 0.05% instrument cost per day.	Agreed	No deviation
2.	The response time should be within 48 hrs of reporting the breakdown. Otherwise, the penalty clause will be implemented.	Agreed	No deviation
3.	Replacement of parts under warranty should be performed within 2 weeks. If equipment is not working for more than 2 weeks (due to any service issues) then the warranty should be extended as default for non-working period. Please provide necessary certificate/commitment letter.	Agreed	No deviation
4.	Replacement of parts related to faulty tubings, pumps, valves, etc for nano/micro-LC and UHPLC must be performed within 7 days of reporting the breakdown.	Agreed	No deviation
P.	<b>Spare parts, Accessories and Consumables:</b>		No deviation
1.	Rates for comprehensive list of spare parts, accessories and consumables must be quoted for at least 5 years.	Quoted the same	No deviation
2.	<b>Following consumables need to be provided FOC during the delivery of instrument</b>		No deviation
i.	2 numbers of C18 guard columns (3 $\mu$ m, 75 $\mu$ m, 2 cm)	Quoted the same	No deviation
ii.	2 numbers of analytical columns (2 $\mu$ m, 75 $\mu$ m, 50 cm)	Quoted the same	No deviation
iii.	2.5 Lt. of LCMS grade Acetonitrile	Quoted the same	No deviation
iv.	2.5 Lt. of LCMS grade Water	Quoted the same	No deviation
v.	2.5 Lt. of HPLC grade Methanol	Quoted the same	No deviation
vi.	2.5 Lt. of HPLC grade 2-propanol	Quoted the same	No deviation
vii.	HeLa protein digest standard (for QC/QA of MS)	Quoted the same	No deviation
viii.	Positive ion calibration solution	Quoted the same	No deviation
ix.	Negative ion calibration solution	Quoted the same	No deviation
x.	MS grade <i>E. Coli</i> Beta-Galactosidase digest (for LCMS calibration and internal standard)	Quoted the same	No deviation
	Note: Vendor should certify that the quoted model fulfils all the criteria mentioned in the specification.	Agreed	No deviation

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(An ISO 9001:2015 Certified Co.)  
CIN : U51207DL2005PTC132750

Justification for the same may be provided. The full capabilities of the system need to be demonstrated to the complete satisfaction and the pre-installation requirement must be defined well in advance.



*S. Bandhyopadhyay*  
Dr. Subhaschandra Bandhyopadhyay  
Scientist-II / Scientist  
Centralized Core Research Facility  
A.I.I.M.S., New Delhi-29

*Kamal Gulati*  
Dr. Kamal Gulati  
ScM (Project Management)  
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*Dr. Subhra Chakraborty*  
Dr. Subhra Chakraborty  
Principal Scientist  
National Institute of Plant Genome Research  
New Delhi-110029



Dated:- 10/08/2023

Lowest Rate Certificate.

To Whom So Ever It May Concern

This is to certify that we, Vision Diagnostic (India) Pvt. Ltd. is giving an undertaking that the prices quoted in this quotation are not higher than what we had quoted to other Government hospitals and institutes across the country during the financial year 2023-24.

If you need any further information, please feel free to contact us.

Molecular Diagnostics Simplified

Thanking you,  
For Vision Diagnostic (India) Pvt. Ltd.

*[Handwritten Signature]*  
Authorized Signatory

*[Handwritten Signature]*

*[Multiple handwritten signatures and initials]*

**Vision Diagnostic (India) Pvt. Ltd.**

**Corporate Office**

FFSR 9A & 9B - First Floor  
Ansal Premium Corporate Suits,  
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Tel. +91-120-4343000  
to 4343021 (22 Lines)  
info@vision-groups.com  
www.vision-groups.com

**Regd. Office**

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GSTIN - 07AABCV6638R124

**Lucknow Office**

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Ph : 9522-4016799  
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**Chennai Office**

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Tel: + 91 7428793111, 044 22112475  
info-chennai@vision-groups.com





The world leader in serving science

February 3, 2021

To whom it may concern:

This is to certify that Orbitrap™ Tribrid™ series mass spectrometers incorporate innovative, proprietary and patented technology exclusive to Thermo Fisher Scientific. The Orbitrap Tribrid series mass spectrometers use Orbitrap mass spectrometry technology, which is essential for the product, as well as proprietary quadrupole ion trap mass analyzer designs. The Tribrid and Orbitrap brand names are proprietary to Thermo Fisher Scientific. No other vendor can manufacture and market mass spectrometers with the same technology and brand names.

The following is a non-exhaustive list of patents that cover Tribrid mass spectrometers and Orbitrap technology in the U.S.:

Patent No.	Description
6,987,261	Ion population control
7,425,699	Injection of ions from storage trap (C-trap) into orbital electrostatic trap
7,498,571 & 8,030,613	Shunted coil for supplying RF to C-trap electrodes
7,692,142 & 7,947,948	Dual cell two-dimensional ion trap mass analyzer with inter-cell pressure differential
8,107,909	C-trap electrode geometry
10,755,907	Spectrum construction using enhanced Fourier transform (eFT)

A more comprehensive list of U.S. patents covering various aspects of the Tribrid series mass spectrometers may be found at:

<https://www.thermofisher.com/us/en/home/global/patents.html>

While this site only lists U.S. patents, corresponding patents or patent applications have been granted or are currently pending in other jurisdictions

Sincerely,

Vlad Zabrouskov, PhD  
Director, Advanced MS Products  
Thermo Fisher Scientific Inc.  
355 River Oaks Parkway  
San Jose, CA 95134



TRUE COPY ATTESTED

O.P. SINGH  
Advocate  
Regd. No. 1080  
Notary Public  
Ghaziabad

05 AUG 2023

Scientific Instruments Division

355 River Oaks Parkway

San Jose, CA  
95134

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www.thermofisher.com

*S. Banerjee*

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in serving science.

10<sup>th</sup> Sept 2023

MANUFACTURER'S AUTHORISATION FORM

To,  
The Director  
All India Institute of Medical Sciences  
Ansari Nagar, New Delhi-110029, India

**Subject:** Proprietary purchase for High Resolution Mass Spectrometer (HRMS) and Accessories - Orbitrap Ascend Tribrid - High Performance Orbitrap MS system for Proteomics and Metabolomics application.

**Ref:**1124/VISION/AIIMS/2023-24

Respected Sir,

We, Thermo Fisher Scientific, who are proven and reputable manufacturer of High Resolution Mass Spectrometer (HRMS) and Accessories - Orbitrap Tribrid Ascend - High Performance Orbitrap MS system for Proteomics and Metabolomics application (Goods) having factory at Hanna-Kunath Strasse 11, 28119, Bremen, Germany. Thermo Fisher Scientific India Pvt. Ltd., having its registered office at 403-404, Delphi 'B' Wing, Hiranandani Business Park, Powai, Mumbai - 400076 (Maharashtra), India. Thermo Fisher Scientific has appointed Vision Diagnostic (India) Pvt. Ltd., Plot no.405, Ground Floor, Patparganj Industrial Area, Delhi-110092, India as the Authorized Distributor for All India Institute of Medical Sciences Ansari Nagar, New Delhi.

We further confirm that Vision Diagnostic (India) Pvt. Ltd, Plot no.405, Ground Floor, Patparganj Industrial Area, Delhi-110092, India is authorized to submit a quotation, process the same further and enter into a contract with you against your requirement for the purchase of above-mentioned Goods manufactured by us.

We also confirm that the price quoted by our agent shall not exceed the price which we would have quoted directly.

The products mentioned above are 100% imported in India we are a non-local supplier of the same. The said distributor shall comply with all the applicable laws.

This authorization is valid till Dec 2023.

Yours truly,  
For, Thermo Fisher Scientific (India) Pvt. Ltd.  
Brijesh Pandey  
General Manager-LSMS/IOMS  
AIG Group- India & South Asia  
M-7304550689/ 9899747841  
[brijesh.pandey@thermofisher.com](mailto:brijesh.pandey@thermofisher.com)

*S. Pandey*



TRUE COPY ATTESTED

*[Signature]*  
SINGH  
Advocate  
Regd. No.-1889  
Notary Public  
Ghaziabad

19 SEP 2023

Thermo Fisher Scientific India Pvt. Ltd.  
Chromatography & Mass Spectrometry Division (CMD)

A-34- Ground Floor  
Noida, U.P.

Tel : +91-1204640600 (30 Lines)  
Fax : +91-1204640630

[www.thermofisher.com](http://www.thermofisher.com)

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