

# Purchase Order

## TFS GURGAON AIRPORT SERVICES PRIVATE LIMITED

Order Number : TFS GURGAON/PO/24-25/000052

Supplier Detail	Shipped Location	Invoice Location
<b>PIONEER PROJECT SOLUTION</b> Supplier Code : RV242523827 [ V0000024 ]	<b>TFS GURGAON AIRPORT SERVICES PRIVATE LIMITED</b> TFS Delhi T1	<b>TFS GURGAON AIRPORT SERVICES PRIVATE LIMITED</b> TFS Delhi T1
(V0000024)	Delhi Terminal 1, Indira Gandhi International Airport, Domestic Departure SHA, Mehram Nagar, New Delhi, 110037	Delhi Terminal 1, Indira Gandhi International Airport, Domestic Departure Sha, Mehram Nagar, New Delhi, 110037  GSTIN No : 07AAKCT9336M1ZL
PAN No : <b>AHQPA6815Q</b> Supplier GST No : <b>07AHQPA6815Q2ZQ</b> Supplier Contact No : Contact Person Name : <b>MOHD ASHRAF</b> Supplier Email : <b>projectspioneer@gmail.com</b>	Cost Center Code : <b>91180052</b> Cost Center Name : <b>DEL T1 WANCHAI BY KYLIN</b> Project ID : <b>0</b> PO Category : <b>Capex NSO</b>	Payment Term : <b>Payments Terms:</b> <b>HVAC- Hi Side  </b> <b>Advance 100% without GST within 7days of work order</b> <b>acknowledgement(by the</b> <b>vendor)</b> <b>HVAC- Low Side, FAS &amp; Fire  </b> <b>Advance - 40% within 7days of Work Order</b> <b>acknowledgement (by the vendor).</b> <b>RA Bill 1- Up to 70% upon 80% work completion &amp;</b> <b>submission on Tax Invoice.</b> <b>Final Bill- Up to 95% upon 100% work completion &amp;</b> <b>signed JMR.</b> PO Creation Date : <b>06/01/2025</b> PO Approval Date : <b>06/01/2025</b> PO Currency : <b>INR</b> Buyer Name : <b>Pushpak Mahesh Shewale</b>

Sr.No	Item Code	HSN\SAC Code	Item Name	Item Description	Pur. Grp.	Qty	UOM	Basic Rate	Dis%	Net Rate	Total Amount	IGST %	Gross Total Amount
1	Hvac - High Side	995463	Hvac - High Side	Hvac - High Side	C01	1.00	NOS	563,200.00	0.00	563,200.00	563,200.00	18	664,576.00
2	Hvac - Low Side	995463	Hvac - Low Side	Hvac - Low Side	C01	1.00	NOS	593,900.00	0.00	593,900.00	593,900.00	18	700,802.00
3	Fire Sprinkler System	8424	Fire Sprinkler System		C01	1.00	NOS	93,100.00	0.00	93,100.00	93,100.00	18	109,858.00
4	FAS	85311020	FAS	FAS	C01	1.00	NOS	146,500.00	0.00	146,500.00	146,500.00	18	172,870.00

**Total Qty : 4.00**

<b>Total Basic PO Amount</b>	<b>1,396,700.00</b>
<b>Total Other Charges</b>	
<b>IGST Amount</b>	<b>251,406</b>
<b>Grand Total PO Amount</b>	<b>1,648,106.00</b>

**Amount In Words :** Rupees Sixteen Lakh Fourty Eight Thousand One Hundred Six Only

**Remarks :** Liquidated Damages:

The CONTRACTOR shall pay liquidated damages as under, for any delay in the physical completion of the works  
5% of the contract value for delay during Week 1  
7.5% of the contract value for delay during Week 2  
10% of the contract value per week for delay from Week 3 onwards.

**Standard Terms And Condition :**

**Completion / Delivery TimeLine :** 13/02/2025

**Mobilization Date :** 13/01/2025

**Defects Liability Period :** 12/02/2026

**Retention Percentage :** 5

#### Escalation Buyer Detail

Name	Mobile No.	Email - ID
Pushpak Shewale	8268330691	
Stephen P.	8553338827	

**Disclaimer :**

Point 1 : Unless informed to us it is assumed that you are not registered as MSME with the respective government authority. If you have not yet provided the MSME details along with proof kindly provide the same at the earliest. Alternatively once you get registered then provide us relevant proof to update our records.

Point 2 : Supplier is requested to acknowledge or decline the order within 24 hours or else it would be considered as accepted.

ItemCode : Hvac - High Side

ItemName : Hvac - High Side

Sr No	Item Code	Item Name	UOM	Remarks	Quantity	Supplier Rate	Amount
1	A	CEILING SUSPENDENT HANDLING UNITS Supply, Installation, Testing and Commissioning of Double Skin Ceiling Suspendent Air Handling Direct Driven Unit, made out of modular panel of thickness 43 + - 2 mm thick, with thermal break profile, with following section CSU frame work shall be Anodized Aluminum Section with thermal break profile internal coving. Mixing box with FAD and RAD with AL construction. Filter section with Pre-filter (G4) + Fine-filter (F5) (Combination Filter) Cooling Coil section with 4 row deep CHW type cooling coil. Fan Section with DIDW type Fan.centrifugal forward curved fan.ceiling suspendent direct driven. Supply air damper in AL construction.			0.00	0.00	0.00
2	2.1	Supply,Installation, testing commisioning of packaged type Exhaust Fan section along with Dry Type Scrubber, Stable placement of unit on respective foundation along with vibration isolation pad as per detail drawing specification, connecting all wiring, cabling, ducting other accessories as required to run unit acceptably.each comprising of extract air intake section, electrostatic precipitation technology, dry type air cleaner to remove oil, smoke and fumes from exhaust air. Electrostatic section shall be made of 16 gauge galvanized sheet, high bake epoxy powder coated, washable type even air flow distribution plate, stainless steel spiked ionizers to create high voltage DC field, honey comb patented cylindrical structure filter cell which should be alternatively charged positive and negative with large collecting area , to work as magnet for charged smoke and oil particles. Average efficiency of 90-95% in single pass as per ASHRAE test method. Electrostatic Precipitator should be able to charge particles from 0.01 micron to 10 microns through solid state power supply. Collector cell should be of permanent type and incorporate slide out facility for easy removal for cleaning. Power supplies shall be 100% solid state UL Listed, Module of capacity below shall be equipped with multiple protection functions for power and overload and overheating with interlock switch for safety as per approved specification and drawings).			0.00	0.00	0.00
3		4500 CFM	Nos.		1.00	160,000.00	160,000.00
4	1.1	CS AHU No 01 @30mmWC - 2400CFM	NOS		1.00	135,000.00	135,000.00
5	3.1	Exhaust Air Unit - 4500 CFM (50 MM Static)	Nos.		1.00	135,000.00	135,000.00
6	4	FACTORY FABRICATED DOUBLE SKIN AIR WASHER	Nos		1.00	0.00	0.00

7		<p>Supply, installation, testing and commissioning of factory fabricated Double Skinned Air-washer unit floor mounted type fabricated out of extruded aluminium section with 0.6mm pre-plasticized pre-coated Galvanised steel sheet outside 0.6 mm plain Galvanised steel sheet inside with blower, blower section and blower motor TEFC (IE-3) type suitable for operation on 415 volts <math>\pm</math> 10%, 50 Hz <math>\pm</math> 5% AC supply, belt drive package, wet section tank shall be made of 18 G stainless steel. The Air-washer shall be complete with fill of depth 200 mm face velocity across the fill shall be limited to 152 MPM. The Air-washer shall have an efficiency of 90% shall be complete with water circulation pump -2 Nos.(1W+1S), GI B Class interconnecting piping, Aluminum viscous filters. makeup, quickfill and drain connections, Butterfly Gate valves for Pumps, make up, drain quickfill connections of Sump, 2 Nos. pumps of suitable capacity (1W +1 S), Y strainers and necessary fittings etc. Suitable PCC RCC foundation with plaster, Antivibration arrangement of cushy foot mountings etc.in all respect shall be in contractor s scope.</p> <p>The Air-washer shall have an efficiency of 90% shall be complete with water circulation pump GI B Class interconnecting piping valves Aluminum viscous filters , fire retardent double canvass connection etc. The airwasher panels shall be insulated with 23mm thick 36 Kg m<sup>3</sup> density PU foam. The Airwasher shall conform to specication given in the tender shall be of following capacity. Motor Kw is indicative only, actual as per requirement to be included during installation.</p> <p>Duty Kitchen Fresh Air Air Qty 3600 CFM Static Pressure 90 mm wg</p>			0.00	0.00	0.00
8	5	<p>Drain Piping</p> <p>Supply, installation, testing and commissioning of PVC drain piping complete with fittings, U traps, supports for below pipe size. 32 NB 25 NB</p>	Rmtr.		20.00	160.00	3,200.00
9		Note - Piping quantity will vary as per actual site condition.			0.00	0.00	0.00

10		<p>General Guidelines Ducting 1) Ducting shall be in accordance with IS 655, Galvanised Iron sheet to be used for all ducting works. Thermal insulation on ducts shall be 19 mm thick. Closed cell Class "O" BS 476 Part 6-7 FM Approved nitrile rubber elastomeric insulation thermal conductivity 0.033 watts per meter-kelvin (W (M·K)) at 0°C for air conditioning ducting. 2) Thermal insulation on kitchen exhaust ducting shall be 80 mm thick Aluminium foil faced resin bonded fiber Glass wool of density not less than 48 kg m33) Thermal Insulation on Fresh air, Supply Air and Return Air shall be 19mm thick closed cell antimicrobial Class "O" BS 476 and part 6 7 FM approved nitrile rubber elastomeric insulation thermal conductivity 0.033 watts per meter-kelvin (W (M·K)) at 0°C.4) Appropriate number of trap doors shall be provided in kitchen exhaust ducting for oil grease cleaning purpose.5) Ducting installation with respect to fresh air intake, kitchen exhaust out from location up to louvers at façade shall be in the scope of concessioner including air washer, exhaust fan section dry scrubber etc.6) Each and every kitchen exhaust hood should be equipped with UL listed, wet chemical based, mechanically operated, automatic fire suppression system. Separate drawing to be submitted for Hood suppression system.7) Supporting of ducting to be done with using angle 50x 50 x 5mm and tie rod of size minimum 10 mm dia As per duct size.8) Post completion of onsite work, concessionaire has to share testing and commissioning report with DIAL.9) Integration with Fire alarm system, so that AHU get switched off in case of any fire incident. 10) For equipment placement structural details to be approved by structural consultant and same to be share with DIAL. 11) Trap door with proper access to be provided for filter and copper coil cleaning.12) Kitchen ventilation shall comply to NFPA 96 guideline.Chilled Water Piping - 1. Chilled water piping shall be confirming to IS 1239 Part I class 'C' heavy and fitting shall be conforming to ASTM A-105,3000lbs socket weld end (up to 50mm) 1S 1239 Part-II HEAVY ASTM A-234 WPB, Gr.B butt weld fitting (above 50nb pipe size)2. Piping connection should be socket welded up to 50nb size and shall be butt weld above 50nb pipe size. Pipe flanges should be confirming to ASTM A-105 # 150 SORF and flange dimension should be in accordance with ASME ANSI B 16.5 (150 SORF), fitting to fitting welding is not allowed. Nozzle connections thredolets weldolets are not allowed by puncturing the pipe. Only equal unequal Tee's shall be used for branch connection from header. Socket weld end Tee should be used for branch connection (up-to -50nb pipe size) w.r.t to pressure gauge temperature gauge Air vent Drain point etc.3. Post installation clearance by DIAL, CHW piping shall be tested @15kgf cm2 hydrostatics pressure for 24hrs hold time and Testing should be witnessed to DIAL Team.5. Condensate drain piping shall be complying to IS 4985 Class 3 UPVC pipe. Solvent cement complying with ASTM D2564 shall be used for joints.6. For ceiling suspended chilled water pipe Pipe should be hanged with tie rod of size minimum 10 mm dia. 7. Attached CHW P ID drawing sketch to be followed during onsite work.</p>			0.00	0.00	0.00
11	3	Kitchen Exhaust Fan Section			0.00	0.00	0.00
12	4.1	3600 CFM AIR WASHER UNIT (with Fresh Air Filters)	NOS		1.00	130,000.00	130,000.00
13	2	Kitchen Dry Scrubber, Make Trion Rydair			0.00	0.00	0.00

14		Supply Installation of Floor Mounted type Cabinat type Exhaust Centrifugal backward inclined DIDW blower with suitable high static pressure to create the required intake velocities and over come the pressure loss at the inlet of filters and ducts. DIDW Centrifugal blower. (Motor outside the effluent air stream.) backward inclined, non over loading type. ( smaller motor) mounted directly on motor shaft twin belt drive system. (slip losses and lesser maintenance) Dynamically balanced to provide a vibration free operation.Fan to be direct driven to motor. Multiblade box type zero leakage manually operated extruded aluminium volume control dampers shall be factory fitted at outlet of Exhaust Fan.Static Pressure 80 mm , Make -Kruger Greenheck System Air Wolter Caryaire Nicotra			0.00	0.00	0.00
15		Total			0.00	0.00	0.00
<b>Total :</b>					<b>25.00</b>		<b>563,200.00</b>

**ItemCode** : Hvac - Low Side

**ItemName** : Hvac - Low Side

Sr No	Item Code	Item Name	UOM	Remarks	Quantity	Supplier Rate	Amount
1	2.1	CHW PIPE SITC of MS Heavy duty class C ERW Chilled Water pipe conforming to IS 1239 - 2004 primer painted including bends, tees, MS supports, PUFF saddles, anchor fasteners, steel angles and any other material required to complete the work. The piping flange connection bolts, washers and nuts should be hot dipped galvanised. Flourscent Plastic Sticker paint shall be applied to indicate Water flow directions. Only End flanges to be used for capping of pipes. Table E of BS code for flange thickness to be adhered. Make Jindal Hissar TATA			0.00	0.00	0.00
2	a	F 32 mm	Rmt		20.00	450.00	9,000.00
2	a	F 32 mm	Nos.		3.00	3,450.00	10,350.00
3	2.4	BALL VALVE WITH Y-STRAINER SITC of following sizes of Brass Ball Valve with Y-Strainer consist of Cap, Brass Body, Rated for 150 psi SWP, 600 psi WOG Pressure Two-piece construction; with brass body, regular port, B-16 chrome-plated ball and stem, replaceable "Teflon" or "TFE" seats and seals, blowout-proof stem, vinyl covered steel handle, threaded or soldered ends and extended stem for insulated piping. Filter element shall be of non magnetic SS sheet with perforation. Make Zoloto Audco Kitz			0.00	0.00	0.00
4	2.7	SITC of Pressure gauges Thermometers Make H Guru Waree Necessary pressure gauges and thermometers 4 Dial type.			0.00	0.00	0.00
5	b	Thermometers of the mercury in glass stem type and copper separable well complete with guard etc., of industrial grade mounting on water lines. Length 9 12 inches, Thermometer, Range 0-50 deg C	Nos.		2.00	1,200.00	2,400.00

6		Note Fan outlet velocity - 1600 FPM All cabinet fans should have plenum section. Fresh air fan should have 6mm thick synthetic media washable filter with framework. Contractor shall submit static pressure calculation for all above units to Client Consultant for their approval. Also, the total static drops across the systems shall cover the overall length from suction discharge to grille (inside the outlet). Any change in motor HP or coil selection shall be made at no extra cost to client. Fan efficiency shall be minimum 75% The cost shall be included lifting shifting of each equipment material with all necessary arrangement. Also, it shall be included the cost of scaffolding required for Installation of such material equipment .			0.00	0.00	0.00
7	a	22 Gauge GI Sheet Metal Duct (751-1500mm)	Sq.mtr		125.00	1,350.00	168,750.00
8	a	CHW AHU	No.		1.00	2,650.00	2,650.00
9	c	Cabinet Fresh Air Fan	No.		1.00	2,650.00	2,650.00
10	5.2	THERMAL INSULATION FOR KITCHEN DUCTS  SITC of Glass Fibre Blanket Insulation material bonded with Thermosetting Resin, with factory applied laminated aluminium foil of 22 microns with fibre glass backing. Further, wire mesh along with 7 mil cloth shall be applied on above the insulation with proper adhesive. Nominal density 48 Kg CuM. Thermal conductivity, < 0.033 W m.K at 24 degC. All Insulation material and adhesives shall be as per Class I for surface spread and in accordance with BS 476, Class O for non-combustible grade. Makes UP Twiga, Owens Corning, Supreme			0.00	0.00	0.00
11	a	CU Armoured Cable for Suitable 2000 CFM AHU Fan, 3PH Fan	Rmt		5.00	350.00	1,750.00
12	c	CU XLPE Cable for dry Scrubber, 1PH with Industrial Top Plug	Rmt		5.00	250.00	1,250.00
13	6.3	CABLE TRAYS			0.00	0.00	0.00
14	2	CHILLED WATER PIPING WITH INSULATION			0.00	0.00	0.00
15	a	F 32 mm	No.		1.00	3,650.00	3,650.00
16	2.6	Auto Air Vent Valves Make Anergy Flamco Providing and fitting Auto Vent Valves. Make Anergy Flamco Providing and fitting Auto Vent Valves.			0.00	0.00	0.00
17	a	Water Pressure gauges 150mm dial complete with gauge valves, mounting, fittings and copper tubing extension wherever required. Pressure gauges Range 0-10 Kg CM2	Nos.		2.00	1,850.00	3,700.00
18	4	SHEET METAL WORKS			0.00	0.00	0.00
19	4.4	VOLUME CONTROL DAMPER G.I. Duct Volume Control Damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications. With suitable ducts lever and quadrants for manual control of volume of air flow. Note - Minimum applicable charges are 0.2 sq.mtr. for any damper size.	Sq.mtr		1.50	8,000.00	12,000.00
20	a	Fresh Exhaust Air Louvers with VCD and Bird Screen	Sq.mtr		1.50	8,500.00	12,750.00
21	a	Fire Dampers	Sq.mtr		1.00	10,000.00	10,000.00
22	4.7	CANVAS CONNECTION Supply fixing of flexible Canvas connections between mouth piece and initial piece of ducting. Flexible connections shall be fire resistant made of closely woven, double layer canvass neoprene coated fibre glass.			0.00	0.00	0.00

23	b	Cabinet Exhaust Fan	No.		1.00	2,650.00	2,650.00
24	5.1	ACOUSTIC INSULATION			0.00	0.00	0.00
25		Supply, handling, laying effecting proper connections testing and commissioning of following sizes of 1.1 KV grade XLPE insulated FRLS Aluminium Copper conductor cables laid over MS supports cable racks or fixing on walls including clamping the cable to supports in an approved manner as required complete with Copper earthing as specified for continuous earthing along with cable. All complete as required and as per final instruction as given by Owners Consultants and as per Technical specifications . Earthing shall be measured separately and shall be connected in two runs. Power to ELCB to be provided near each ODU by electrical contractor.			0.00	0.00	0.00
26	c	CU XLPE Cable for 4100 CFM FA Fan, 3PH Fan with Industrial Top Plug	Rmt		5.00	350.00	1,750.00
27		Supplying Fixing of following sizes of GI cable tray duly painted perforated type of height 50mm along with necessary bends, reducers etc. anchored along the wall suspended from the ceiling with necessary MS supports.			0.00	0.00	0.00
28	a	50mm x 50mm x 1.6mm Thick	Rmt		20.00	500.00	10,000.00
29	c	Thermowells	Nos.		2.00	550.00	1,100.00
30	a	F 25 mm	Rmt		10.00	140.00	1,400.00
31		NOTES FOR PIPING Cover all open pipe ends with muslin cloth during construction Pipe cleaning chemical treatment as per specs shall be included in the piping cost. Unit rates for all indicated sizes of pipes valves shall be furnished. Cleaning Painting of pipe before insulation shall be included in piping cost. The piping support should be as per tender specification and additional supports are to be provided Contractor as decided by Consultant. All the valves shall be insulated with the same material as that of Chilled water piping and cost of insulation for valves shall be considered.			0.00	0.00	0.00
32	3.4	FRAMEWORK FOR FANS			0.00	0.00	0.00
33	4.1	GI SHEET METAL DUCTING			0.00	0.00	0.00
34	4.2	Supply Return diffuser from TOP . Supply, installation, testing and commissioning of extruded aluminium supply and exhaust air grille with without dampers duly powder coated as per specifications and drawings.			0.00	0.00	0.00
35	b	600mm x 600mm	Nos,		14.00	2,050.00	28,700.00
36	4.3	EXTRUDED ALUMINIUM CEILING GRILLES Supply, Installation, Testing and Balancing of Powder coated aluminium grilles complete with removable inner core as per approved shop drawing and specifications. The area of grille can be of any geometrical shape (Square rectangular Linear). The grilles shall be with 15 30 45° deflections as per requirement. The Colour shall be decided and approved by client and architect. Make Cosmos, Air Master System Air Square Rectangular Linear	Sq.mtr		3.00	6,000.00	18,000.00
37	4.5	VCD for Exhaust Hoods	Sq.mtr		1.00	8,000.00	8,000.00



38	4.7	Supply, installation, testing commissioning of motorised fire smoke damper (spring return type) of approved make of atleast 90 min fire rating as per UL555, made out of 16 ga GSS and suitable for duct mounting with a flange of 254 mm and depth of 150 mm. and as per the specification detail given earlier in the relevant section. The fire damper shall be complete with electrically operated actuator and modbus compatible control panel and a supervisory controller (suitable for interconnecting upto 99 controllers) complete with all interlocking control wiring. The fire dampers shall be located in the supply return ducts, at all fire rated crossovers (shafts walls etc.). The control panel shall receive signal from affected floor fire panel and shall actuate the dampers of affected floor, one floor above and one floor below (NC to NO). All other Fire Dampers to remain NC only. The Signal to the controllers from Fire Panel to be provided by electrical agency and Controller looping interlocking and looping with supervisory controller shall be in the scope of HVAC Vendor. (Cabling price separately considered in Part C below)			0.00	0.00	0.00
39		Supply fixing of Thermal insulation for supply air duct using 19mm thick class O Closed cell nitrile rubber with anti-microbial coating on it. Insulation shall have Thermal conductivity of 0.033 W (m.K) and water vapor permeance of 0.10. Joints should be sealed with 50 mm wide 3 mm thick self adhesive tape. The duct shall be stick with recommended adhesive. Make Armaflex K-flex	Sq.mtr		100.00	650.00	65,000.00
40		Supply fixing acoustic insulation for ducting using Class 1 closed cell elastomeric insulation of 10mm thick Nitrile rubber insulation adhesive, longitudinal transverse joints sealed with adhesive in neat clean manner. Material shall be processed Nitrile Rubber foam with anti-microbial protection. Insulation shall have thermal conductivity of 0.047 W (m.K) and density of 140 - 180 kg m <sup>3</sup> . Make Armaflex K-flex	Sq.mtr		5.00	1,050.00	5,250.00
41	6	ELECTRICAL WORKS			0.00	0.00	0.00
42	b	CU XLPE Cable for 4800 CFM EX Fan, 3PH Fan with Industrial Top Plug	Rmt		5.00	350.00	1,750.00
43	d	8 SWG GI Earthing	Rmt		10.00	120.00	1,200.00
44	6.2	CABLE TERMINATION			0.00	0.00	0.00
45		Supply Making of Cable termination of armoured unarmoured cables 1.1 KV grade including installation of cable glands, cable lugs (Aluminium for A2XFY copper for 2XFY YY Double compression type), heat shrinkable sleeves on long ends, crimping paste etc. The work includes testing commissioning of cables, meggering values submitting reports of tests. (One set includes termination of all cores of one end only). All crimping tools dies shall be arranged by contractor.			0.00	0.00	0.00
46	a	F 32 mm	Rmt		20.00	950.00	19,000.00
47	2.2	CHILLED WATER PIPING INSULATION - INTERNAL USE  SITC of insulation for chilled water. piping. For internal pipe - Stick 25mm thick Nitrile rubber class O Closed cell nitrile rubber with anti-microbial coating on it. Insulation shall have Thermal conductivity of 0.033 W (m.K) and water vapor permeance of 0.10. Joints should be sealed with 50 mm wide 3 mm thick self adhesive tape and putting PVC bands at all supports. Make Armaflex K-flex			0.00	0.00	0.00

48	2.3	BALL VALVE SITC of following sizes of Ball Valve consist of Cap , Brass Body, Rated for 150 psi SWP, 600 psi WOG Pressure Two-piece construction; with brass body, regular port, B-16 chrome-plated ball and stem, replaceable "Teflon" or "TFE" seats and seals, blowout-proof stem, vinyl covered steel handle, threaded or soldered ends and extended stem for insulated piping. Same valve shall be used as a Drain valve. Make Zoloto Audco Kitz			0.00	0.00	0.00
49	2.5	PIBCV VALVE SITC of Pressure Independent Balancing cum Control Valves (PIBCV) including integrated motorised control valve and balancing device for combined flow and water balancing requirement. Valve body to be rated for PN 16. The valve design flow rate should be factory calibrated with + - 5% flow accuracy. Valve shall have necessary measuring ports, drain port, flanges etc., Valve shall also provide temperature sensor with necessary cabling (min 2mtr length to be considered with each valve). The balancing to be done through microprocessor based hand held terminal POT and the same results shall be furnished in the water balancing report as part of commissioning report and handing over manual. Make Oventrop Siemens Danfoss			0.00	0.00	0.00
50	a	F 32 mm	No.		1.00	26,500.00	26,500.00
51	a	SITC of Auto air vent in each risers common headers AHU. 3 4 auto vent valves at each coil riser header.	Nos.		2.00	850.00	1,700.00
52	2.8	INSULATED CONDENSATE DRAIN PIPE SITC of UPVC pipes of following sizes for drain with necessary supports and fittings such as elbows, tees reducers etc. The insulation line to be insulated with nitrile rubber insulation of thickness 9mm and wrapped by weather proof protection tape. The Pipe wherever concealed should also have a parallel line as a standby arrangement in case of block of primary pipe . Make Supreme, Prince, Astral			0.00	0.00	0.00
53		Supply, Fabrication and Installation of MS frame using channels angle iron sections as required for mounting of ventilation fans scrubber in areas shown in the layout. The frame work shall be applied with red oxide primer and thereafter, two coats of enamel paint of approved colour. The general arrangement drawing for frame work shall be got approved from the Mall team prior to commencement of fabrication.	Kg		200.00	225.00	45,000.00
54		Supply, Fabrication, Testing, and Commissioning of Factory Fabricated GI Sheet Metal 120GSM Rectangular boxed ducting, Plenums, Cows, Elbows with turning vanes, Splitters, Reducers, Flanges, Collars etc as per IS 655 and installation as per SMACNA standards, The complete ducting shall be provided with MS Supports, Rods, Angles, Flanges, Bracing, Rubber Gaskets, Wooden frames, Canvas Connections, etc. as per drawings and specifications. GI Sheet Makes Tata, Jindal, SAIL, Ispat Make Rola Star, Zeco Ductofab			0.00	0.00	0.00
55	b	24 Gauge GI Sheet Metal Duct (0-750mm)	Sq.mtr		30.00	1,250.00	37,500.00
56	4.6	Providing and fixing of powder coated extruded aluminium exhaust air louvers fresh air louvers with bird screen and mounting arrangement as per specification and drawings.			0.00	0.00	0.00
57	b	Actuators for motorized dampers	Nos.		2.00	11,500.00	23,000.00

58		NOTES The ducting support should be as per tender specification and additional supports are to be provided by Contractor as decided by Consultant. Muslin cloth cover for all air outlets during construction. Pressure testing of complete duct work as per DW SMACNA standard. Silicon sealant for longitudinal transverse joints as per specification. Diffusers grilles shall be powder coated as per color approved by Architect.			0.00	0.00	0.00
59	5	THERMAL INSULATION			0.00	0.00	0.00
60		80 -mm Thick	Sq.mtr		50.00	1,050.00	52,500.00
61	6.1	Power Cable			0.00	0.00	0.00
62	a	CU Armoured Cable for Suitable 2000 CFM AHU Fan, 3PH Fan	Nos.		2.00	500.00	1,000.00
63	b	CU XLPE Cable for 4800 CFM EX Fan, 3PH Fan with Industrial Top Plug	Nos.		2.00	500.00	1,000.00
64	c	CU XLPE Cable for 4100 CFM FA Fan, 3PH Fan with Industrial Top Plug	Nos.		2.00	500.00	1,000.00
<b>Total :</b>					<b>656.00</b>		<b>593,900.00</b>

**ItemCode** : Fire Sprinkler System

**ItemName** : Fire Sprinkler System

Sr No	Item Code	Item Name	UOM	Remarks	Quantity	Supplier Rate	Amount
1	a)	25 mm dia.	Mtr		35.00	750.00	26,250.00
2	c)	1500mm	Each		7.00	2,650.00	18,550.00
3	7	Providing, fixing, testing and commissioning of drain test assembly complete with pipe, drain valve, test valve, sight glass, union, tee, elbow etc. complete with bolts, nuts, gasket, washers etc. as per NBC	Each		1.00	1,050.00	1,050.00
4	1	Providing, laying, testing commissioning of C class heavy duty MS pipe conforming to IS 3589 IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall ceiling with suitable clamp support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required. (Make - SURYA PIPES JINDAL HISSAR TATA)			0.00	0.00	0.00
5	2	Providing, fixing, testing and commissioning brass quartzoid sprinklers K-80 (UL-Underwriters Laboratories Listed) suitable for 175 psi(12 Bars) maximum working pressure and 7 psi(0.5 Bars) minimum operating pressure with 15 mm dia BSPT threaded opening complete in all respects. The type temperature rating shall be as follows. (Make - SAFEX NEWAGE HD FIRE)			0.00	0.00	0.00
6	3	Supplying, installation, testing commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required. (Make - SAFEX NEWAGE HD FIRE)			0.00	0.00	0.00

7	5	Wheel operated Butterfly Valves (PN 16) with inbuilt supervisory switch (UL listed and FM approved) with CI Body, Black Nitrile Body Liner and Nylon Coated SG Iron Disc with material and labour including hydraulic testing etc. complete as per drawing, specification to the level of satisfaction of Site- Incharge.			0.00	0.00	0.00
8	a)	50 mm dia	Each		1.00	16,500.00	16,500.00
9	b)	32 mm dia.	Mtr		5.00	950.00	4,750.00
10	c)	40 mm dia.	Mtr		5.00	1,050.00	5,250.00
11	d)	50 mm dia.	Mtr		4.00	1,250.00	5,000.00
12	a)	Pendent Concealed Sprinklers Sprinkler (68°)- Quick response type	Each		7.00	2,250.00	15,750.00
<b>Total :</b>					<b>65.00</b>		<b>93,100.00</b>

**ItemCode** : FAS

**ItemName** : FAS

Sr No	Item Code	Item Name	UOM	Remarks	Quantity	Supplier Rate	Amount
1	2	Supplying, installation, testing commissioning of intelligent addressable programmable sounder complete as required.	Each		2.00	5,500.00	11,000.00
2	5	Supplying, installation, testing commissioning of intelligent addressable duct detector including suitable Photo detector complete with base as required.	Each		1.00	5,200.00	5,200.00
3	6	Supplying, installation, testing commissioning of addressable manual call point complete as required.	Each		2.00	5,400.00	10,800.00
4	8	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required. Speaker cable Single pair, 2-core, 1.5 sqmm	Meter		100.00	145.00	14,500.00
5	1	Supplying, installation, testing commissioning of intelligent analog addressable photothermal detector complete with mounting base complete as required.	Each		8.00	5,050.00	40,400.00
6	7	Supplying, installation, testing commissioning of addressable horn cum strobe complete as required.	Each		2.00	5,500.00	11,000.00
7	3	Supplying, installation, testing commissioning of Controle Module complete with base as required.	Each		2.00	5,400.00	10,800.00
8		Integration Of FAS System	Each		1.00	22,000.00	22,000.00
9	4	Supplying, installation, testing commissioning of addressable fire control or monitoring module complete as required.	Each		4.00	5,200.00	20,800.00
<b>Total :</b>					<b>122.00</b>		<b>146,500.00</b>