

PR Number : TFSPL-2324-00122		Currency : INR		Quotation Date :		
Package / RFQ Name : BOQ for HVAC for Delhi T1-Subway Outlet		BUDGET PRICE :.00		Quotation Validity Date :		
Buyer : Sarvesh Patil				Technical Score :		
Comp. # : 3						
Sr No.	Item Code	Item Description	UOM	Qty	Unit Price	Amount
1		BOQ for HVAC for Delhi T1-Subway Outlet	NOS	1		4,39,690.00
1		Note				
2		Prices shall be based on supply, installation, testing commissioning (SITC) at site including all taxes, duties, transportation insurance etc.				
30	2	CHILLED WATER PIPING WITH INSULATION				
31	2.1	CHW PIPE				
32		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.				
33		Make Jindal Hissar TATA				
34		F 32 mm	Rmt	20	950	19,000.00
35	2.2	CHILLED WATER PIPING INSULATION - INTERNAL USE				
36		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.				
37		Make Armaflex K-flex				
38		F 32 mm	Rmt	20	430	8,600.00
39	2.3	BALL VALVE				
40		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.				
41		Make Zoloto Audco Kitz				
42		F 32 mm	Nos.	3	3250	9,750.00
43	2.4	BALL VALVE WITH Y-STRAINER				
44		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.				
45		Make Zoloto Audco Kitz				
46		F 32 mm	No.	1	2850	2,850.00
47	2.5	PIBCV VALVES				
48		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.				
49		Make Oventrop Siemens Danfoss				
50		F 32 mm	No.	1	36500	36,500.00
51	2.6	Auto Air Vent Valves				
52		Make Anergy Flamco				
53		Providing and fitting Auto Vent Valves.				
54		SITC of Auto air vent in each risers common headers AHU. 3 4 auto vent valves at each coil riser header.	Nos.	2	1850	3,700.00
55	2.7	SITC of Pressure gauges Thermometers				
56		Make H Guru Waree				
57		Necessary pressure gauges and thermometers 4 Dial type.				
58		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	1450	2,900.00
59		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	2050	4,100.00
60		Thermowells	Nos.	4	950	3,800.00
61		SITC of Brass Test Plug of industrial grade mounting on water	Nos.	1	1950	1,950.00
62	2.8	INSULATED CONDENSATE DRAIN PIPE				
63		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.				
64		Make Supreme, Prince, Astral				
65		F 25 mm	Rmt	10	210	2,100.00
66		F 32 mm	Rmt	2	270	540

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Sr No.	Item Code	Item Description	UOM	Qty	Unit Price	Amount
67		NOTES FOR PIPING				
68		Cover all open pipe ends with muslin cloth during construction				
69		Pipe cleaning chemical treatment as per specs shall be included in the piping cost.				
70		Unit rates for all indicated sizes of pipes valves shall be furnished.				
71		Cleaning Painting of pipe before insulation shall be included in piping cost.				
72		The piping support should be as per tender specification and additional supports are to be provided Contractor as decided by Consultant.				
73		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.				
74		SUB-TOTAL				
92	4	SHEET METAL WORKS				
93	4.1	GI SHEET METAL DUCTING				
94		Supply, Fabrication, Testing, and Commissioning of Factory Fabricated GI Sheet Metal 120GSM Rectangular boxed ducting, Plenums, Cowls, 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.				
95		GI Sheet Makes Tata, Jindal, SAIL, Ispat				
96		Make Rola Star, Zeco Ductofab				
97		22 Gauge GI Sheet Metal Duct (751-1500mm)	Sq.mtr	10	1340	13,400.00
98		24 Gauge GI Sheet Metal Duct (0-750mm)	Sq.mtr	75	1240	93,000.00
99	4.2	EXTRUDED ALUMINIUM CEILING GRILLES				
100		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.				
101		Make Cosmos, Air Master System Air				
102		Square Rectangular Linear	Sq.mtr	4	7850	31,400.00
103	4.3	OPPOSED BLADE DAMPER				
104		SITC of Aluminium Opposed blade dampers black powder coated vertical blades type for supply air collar. The damper should be gear operated type.	Sq.mtr	12	3650	43,800.00
105		Make Cosmos, Air Master System Air				
106	4.6	MULTI LEAF VOLUME CONTROL DAMPER				
107		SITC of multiblade box type galvanised steel sheet volume control dampers for ducts to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system as per the approved shop drawings and specifications.	Sq.mtr	5	6250	31,250.00
108		Make Carryaire System Air Dynacraft Air Master				
109	4.7	EXTRUDED ALUMINIUM SQUARE AIR DIFFUSER				
110		Supply, Installation, Testing and Balancing of Powder coated aluminium supply air square diffuser complete with removable inner core as per approved shop drawing and specifications. The diffuser shall also be provided with Black painted GI opposed blade damper (OBD) of required sizes. Each diffuser shall have double inlet rings to connect flexible ducts. The diffuser shall be suitable for gypsum grid ceiling. The Colour shall be decided and approved by client and architect.				
111		Make Cosmos Ruskin Titus Air Master				
112		SQUARE DIFFUSER FOR GRID CEILING				
113		Supply Air Diffuser with OBD - Neck Size 250x250mm	Nos.	4	2650	10,600.00
114		Return Air Diffuser without OBD	Nos.	4	2450	9,800.00
115		SQUARE DIFFUSER FOR GYPSUM CEILING				
116		Supply Air Diffuser with OBD - Neck Size 250x250mm	Nos.	4	2050	8,200.00
117		Return Air Diffuser without OBD	Nos.	4	1850	7,400.00
118	4.8	CANVAS CONNECTION				
119		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.				
120		CHW AHU	No.	1	2000	2,000.00
121		Cabinet Exhaust Fan	No.	1	2250	2,250.00
122		Cabinet Fresh Air Fan	No.	1	2250	2,250.00
123		NOTES				
124		The ducting support should be as per tender specification and additional supports are to be provided by Contractor as decided by Consultant.				
125		Muslin cloth cover for all air outlets during construction.				
126		Pressure testing of complete duct work as per DW SMACNA standard.				
127		Silicon sealant for longitudinal transverse joints as per specification.				
128		Diffusers grilles shall be powder coated as per color approved by Architect.				
129		SUB-TOTAL				
130	5	THERMAL INSULATION				
131	5.1	THERMAL INSULATION				
132		Supply fixing of Thermal insulation for supply air duct using 19mm thick class 0 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.	Sq.mtr	10	920	9,200.00

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133		Make Armaflex K-flex				
134	5.2	ACOUSTIC INSULATION				
135		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 ³ .	Sq.mtr	40	1030	41,200.00
136		Make Armaflex K-flex				
137	5.3	THERMAL INSULATION FOR KITCHEN DUCTS				
138		SITC of Glass Fibre Blanket Insulation material bonded with Thrmosetting Resin, with factory applied laminated aluminium foil of 22 micrns 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 Insuation material and adhesives shall be as per Class I for surface spread and in accordance with BS 476, Class O for non-combustible grade.				
139		Makes UP Twiga, Owens Corning, Supreme				
140		25 mm Thick	Sq.mtr	30	730	21,900.00
141		SUB-TOTAL				
142	6	ELECTRICAL WORKS				
143	6.1	Power Cable				
144		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.				
145		CU Armoured Cable for Suitable 2000 CFM AHU Fan, 3PH Fan	Rmt	5	250	1,250.00
146		CU XLPE Cable for EX Fan, 1PH Fan with Industrial Top Plug	Rmt	5	350	1,750.00
147		CU XLPE Cable for FA Fan, 1PH Fan with Industrial Top Plug	Rmt	5	350	1,750.00
148		8 SWG GI Earthing	Rmt	10	100	1,000.00
149	6.2	CABLE TERMINATION				
150		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, meggaring 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.				
151		CU Armoured Cable for Suitable 2000 CFM AHU Fan, 3PH Fan	Nos.	2	1500	3,000.00
152	6.3	CABLE TRAYS				
153		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.				
154		50mm x 50mm x 1.6mm Thick	Rmt	15	350	5,250.00
155		100mm wide x 50mm x 1.6mm Thick	Rmt	5	450	2,250.00