

पनवेल महानगरपालिका
जाहीर निविदा दरपत्रक

आयुक्त, पनवेल महानगरपालिका हद्दीतील प्रभाग समिती 'क' प्रभाग क्र.१४ मधील भूखंड क्र.०४, सेक्टर - १६, नवीन पनवेल (प) या भूखंडावर पनवेल महानगरपालिकेचे "स्वराज्य" मुख्यालय इमारतीचे अंतर्गत सजावट व इतर अनुषंगीक कामे करणे. या कामाचे अंदाजपत्रक बनविण्याकरीता खाली नमूद केलेल्या बाबींकरीता खालील नमूण्यात दर मागविण्यात येत आहे.

अ.क्र.	कामाचे नाव	मुदत
१	पनवेल महानगरपालिका हद्दीतील प्रभाग समिती 'क' प्रभाग क्र.१४ मधील भूखंड क्र.०४, सेक्टर - १६, नवीन पनवेल (प) या भूखंडावर पनवेल महानगरपालिकेचे "स्वराज्य" मुख्यालय इमारतीचे अंतर्गत सजावट व इतर अनुषंगीक कामे करणे.	०४/१२/२०२३ ते १२/१२/२०२३ (७ दिवस)

VRF Air Conditioning Work
Specification

Sr. No	DESCRIPTION	Quantity	Unit
	NOTE: 1) ALL ITEM RATE SHOULD BE FOR 3 YEARS DEFECT LIABILITY WARRANTY PERIOD. 2) VENDER TO DO THE AIR BALNCING OF ALL AIR SUPPLY OUTLETS AND SUBMIT THE REPORT FOR THE SAME.		
1.0	Supply of VRV or VRF ODU / IDU and Other Accessories		
	4 HP side dischrge VRV ODU ,Supplying, erecting, testing and commissioning of Side discharge 4HP, VRF/VRV air conditioning system outdoor unit (ODU) complies type-IV OEM standards working on HFC refrigerant R410A or other required/suitable green equivalent refrigerant, for minimum cooling capacity as delivering 100% capacity at 47° C, non stop cooling even at 56° C and coefficient of performance (COP) 3.00 to 4.00, modular type horizontal hot air discharge suitable for longer piping range upto 1000m operation in cooling mode with inverter/digital VRF/VRV technology microprocessor based control compressor starter/control panel with scroll compressor, air cooled copper condenser coil of suitable shape for increasing maximum heat transfer area, rain protection cover, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V±10%, 50 Hz, 3 phase power supply (all suitable for high ambient conditions), internal copper refrigerant piping, internal wiring and refrigerant, etc. all housed in powder coated weather proof cabinet complete.	8	Each
	5 HP side dischrge VRV ODU Supplying, erecting, testing and commissioning of Side discharge 5HP, VRF/VRV air conditioning system outdoor unit (ODU) complies type-IV OEM standards working on HFC refrigerant R410A or other required/suitable green equivalent refrigerant, for minimum cooling capacity as delivering 100% capacity at 47° C, non stop cooling even at 56° C and coefficient of performance (COP) 3.00 to 4.00, modular type horizontal hot air discharge suitable for longer piping range upto 1000m operation in cooling mode	1	Each

	with inverter/digital VRF/VRV technology microprocessor based control compressor starter/control panel with scroll compressor, air cooled copper condenser coil of suitable shape for increasing maximum heat transfer area, rain protection cover, built in oil separator, accumulator and oil receiver, copper tube aluminium fin air cooled condenser, condenser fan with motor suitable for 415V±10%, 50 Hz, 3 phase power supply (all suitable for high ambient conditions), internal copper refrigerant piping, internal wiring and refrigerant, etc. all housed in powder coated weather proof cabinet complete.		
1.5	Centralised Remote Controller system (CRC)		
	Make:-Hitachi / Daikin / Toshiba / Mistubishi		
	Supply Installation, Testing & Commissioning of Centralised Remote Controller system of VRV system for all the indoor & outdoor units.		
b	Supply ,installation,testing and commssioning of IBMC Interface device for BACNET protocol	1	No.
	Make:-Hitachi / Daikin / Toshiba / Mistubishi		
1.6	Intelligent Manager system		
	Make:-Hitachi / Daikin / Toshiba / Mistubishi		
a	Supply ,installation ,testing and commissioning of Intelligent Manager system controller for VRV system for all the indoor & outdoor units for IBMS Integration	1	No.
2.0	SITC Dx. AHU Indoor Unit , compitable with VRV/VRF Outdoor unit.		
2.1	Supply, Installation, Testing & Commissioning of Dx Coil AHU Floor Mounted Air Handling Unit with VFD Drives, with min 6 Row deep coil selection as per load,Fins spacing 12-13 fins/inch ,with 25+/-2 mm thk panels with inner & outer skin thickness as 0.6mm , puff density shall be 40+/-2 kg/m ³ with Fan section with Plug/DIDW centrifugal forward /Backward curved fan, Drive set with V-belt & min Motor IE3 Rating, Compatible with Dx VRV Outdoor Condensing unit, comprising thermostatic control & Expansion valves VRV/VRF KIT , MERV 8 , MERV 13 filters, UV and PHI , with corded remote and vibration isolation pads , Canvass connection with spring type antivibration mounting / Hanging of units etc. GI insulated drain pan, Coil size shall be selected for a maximum face velocity of 500 feet/minute. Fan motor assembly (as whole) shall be statically and dynamically balanced. Unit shall be complete with opposed blade aluminium volume control dampers at outlet connection. Lifting shifting to the designated floor MS powder coated just able height type AHU Unit Stand, Commissioning of the unit. complete as per specifications and drawings. Make:-Zeco/ Edgetech/ VTS/ Nutech		
	PHI (PhotoHydroIonization) Included with AHU		
	Supply, installation, testing & commissioning PhotoHydroIonization Cell (PHI) for killing the bacteria, virus, odor and other micro organisms& both airborne		

	and surface borne microbes as well virus, VOC's and Odor, mold in the conditioned space. Photo hydro ionisation cell & occurs by exposing activated oxygen molecules to a hydrated catalyst containing four unique metals .The PHI units should be are easily mounted into air conditioning systems air AHU Supply air ducts / Plenum boxes . Detailed selection chart to be furnished indicating the model number for each unit. Cells Should be complete with Transformers, control cabling and Plug Top & necessary power cable. The power / control cabling between the units and the power source / controls shall be included in the cost as per specifications or as directed etc. complete. Make:-Zeco/ Ultrafresh/ ALFA		
	PhotoHydroIonization Cell (PHI) cell comprising of quad metallic compound target/ hydrated catalytic matrix cell duly enclosed by a poly casing tube, with the capability to produce friendly oxidizers like hydro peroxides. The tube should be duly encased in poly tube to prevent glass or mercury leakage into the atmosphere.The cell will have built in fiber optic device as remote indication of this operation. The equipment shall conform to UL 1598, CAN/ CSA 222, EN 60335-1, EN 60335-2-65, TUV, CSA, EU standards, certifications shall be submitted along with the technical submittal. Refer technical specifications for more details and compliance as per specifications or as directed etc. complete. These shall be suitable for the following capacities		
	Note: Contractor shall Include Cost of MERV 8 & MERV 13 Filter & UVGI Lamp ,PHI with AHU Cost.		
	Dx AHU with VFD Drives		
a	30 TR - 14,300 CFM , 60 mm Static Pr , Dx coil FM/Ceiling Mounted AHU (For Terrace Museum)	4	No.
b	10 TR -4,000 CFM , 62 mm Static Pr , Dx coil FM/Ceiling Mounted AHU (For 1ST Flr UPS Room) (3w+3s)	6	No.
	Vendor to Submitt& Provide Dimension of Above DX coil selection		
Lx.....Wx.....HT.....IN MM , AND WEIGHT KG		
2.1.1	Supply of Local Control Panels or Starter Panels In IP 52 construction each with MCB, Single Phase Preventer, over load protection ,Potential Free NO/NC contacts (for Fire signal trip ,run , trip , auto/manual) and 1 no. relay contact for on/off command , provision of mounting the VFD , Local panal compatible with BMS.suitable for following:		
	Make:-DB ELECTRICALS/VIVID ELECTROMECH/GOEL POWER/ADARSH ELECTRICAL		
	Local Control Panels or Starter Panels for AHU's		

	Supply, installation, testing and commissioning of cubicle type Local Control Panels or Starter		
	30 TR - 14,300 CFM , 60 mm Static Pr , Dx coil FM/Ceiling Mounted AHU (For Terrace Museum)	4	No.
	10 TR -4,000 CFM , 62 mm Static Pr , Dx coil FM/Ceiling Mounted AHU (For 1ST Flr UPS Room) (3w+3s)	6	No.
3.3	Refrigerant Charging		
a	Supply, Installation, Testing and Commissioning charges along with Topping-up of Refrigerant for all VRF ODU of different capacity .	47	No
4.0	FRAME WORK		
4.1	Supply, fabrication and installation, Testing and Commissioning of MS base frame for outdoor units complete with epoxy painting, vibration isolation pads, supports, hangers, railing, brackets etc. Location rear side above on Chajja.Note: For constructions approved by Architect/ Consultant. Apply 2 coats of epoxy primer and 2 coats of finish painting (black paint) as approved by Architect. Stand to be made as per site conditions.MS for Frame and supports Make :-Tata / SAIL / Jindal / Nippon		
	FOR 4 HP VRF ODU	8	No.
	FOR 5 HP VRF ODU	1	No.
	FOR 6 HP VRF ODU	5	No.
	FOR 8 HP VRF ODU	2	No.
	FOR 10 HP VRF ODU	6	No.
	FOR 12 HP VRF ODU	12	No.
	FOR 14 HP VRF ODU	1	No.
	FOR 16 HP VRF ODU	1	No.
	FOR 18 HP VRF ODU	9	No.
	FOR 20 HP VRF ODU	1	No.
	FOR 22 HP VRF ODU	2	No.
b	FOR 24 HP VRF ODU	0	No.
4.2	Indoor unit bracket for VRV Units	76	No.
5.0	DRAIN PIPING		
5.1	PVC Drain Pipe		
	SITC OF Condensate Drain Water piping constructed out of PVC pipes, fitting, accessories, bends, elbows, tees, flanges, tappings, wall sleeves, hangers, supports, anchors. The pipes to be duly insulated with 10 mm Nitrile rubber		

	insulation Make:Ashirwad/ Supreme/ Astral		
a	75 mm Dia	40	RMT
b	50 mm Dia	200	RMT
c	40 mm Dia	120	RMT
d	32 mm Dia	90	RMT
e	25 mm Dia	150	RMT
6.0	SHEET METAL WORK		
	GI Sheet Make:-Tata / Jindal / Sail		
6.1	ALL SHEET METAL WORK , INSULATION , GRILL , DIFFUSER , DAMPERS ETC,		
	SHEET METAL WORKS		
	FACTORY MADE GI Duct as per SMACNA STD'S		
	s		
	Note : All exposed ventilation duct work should be painted with 2 coats of epoxy primer and 2 coats of epoxy paint.All the supports of the duct will be painted to match the ducting. Please note that the supports for ducting have to be taken from the ceiling slab only.		
	As per SMACNA STD		
	Factory fabricated Ducting should be with insulation from Factory itself (for insulation qty are consider in insulation item).		
6.1.1	Factory Fabricated		
a	18 G Plenum	700	SQFT
b	20 G Ducting (upto 1500mm upto 2250mm any side)	200	SQFT
c	22 G Ducting (above 750mm upto 1500mm anyside)	4000	SQFT
d	24 G Ducting (upto 750mm any side)	5500	SQFT
e	20 G Ducting (upto 1500mm upto 2250mm any side) (Flat Oval Ducting)	400	SQFT
f	22 G Ducting (above 750mm upto 1500mm anyside) (Flat Oval Ducting)	120	SQFT
g	24 G Ducting (upto 750mm any side) (Flat Oval Ducting)	240	SQFT
h	22 G Ducting (Round Ducting)	120	SQFT
i	24 G Ducting (Spiral Ducting)	100	SQFT
6.1.2	Site Fabricated		

a	18 G Plenum (Site Fabricated)	1000	SQFT
b	20 G Ducting (upto 1500mm upto 2250mm any side)	200	SQFT
c	22 G Ducting (above 750mm upto 1500mm anyside)	600	SQFT
d	24 G Ducting (upto 750mm any side)	750	SQFT
6.2	PREINSULATED DUCTS :		
	SITC of Pre-insulated aluminium ductwork made of aluminium sandwich panels, comprising an expanded polyurethane rigid foam board faced on both sides by aluminium foil with weatherproof protection layer. Rigid expanded polyurethane foam will be 48 kg/m ³ density, CFC free with a thermal conductivity of not less than 0.022 W/mk. or Mineral Fibre Board .The duct material and the adhesive shall be of class 'O' fire rated, Fire retardent and UL723 certified. The sealant used shall be low VOC. The price quoted shall also include internal support / stiffner rods, duct joint system and gripple supporting arrangement. Make:P3 /DS Ductofab/Easy Pre-insulated Duct/ UniGulf /Asawa		
a	20 mm thick ducts	6000	SQFT
6.3	Linear Grilles		
	Supply of following sizes of Aluminium extruded powder coated continous grilles with 4 side flanges (size /width as per inside to inside of flanges)Note : If required Contractor should blank off the extra portion of grille without additional cost and provide deflection of 0 deg to 45 deg .as per specifications.or as directed etc.without extra cost Make:Dynacraft/ Cosmos/ Airproducts/System air		
a	200mm wide	120	SQFT
b	150mm wide	75	SQFT
c	100mm wide	25	SQFT
d	(600 x 600) mm 2 way Grill with Volume control damper	20	Nos
e	(600 x 600)mm 2 way Grill without Volume control damper	20	Nos
f	(300 x 300) mm 2 way Grill with Volume control damper	10	Nos
g	(300 x 300)mm 2 way Grill without Volume control damper	10	Nos
6.4	Continous Linear Curved Grilles		
	Supply, installation,testing and commisioning of following sizes of Aluminium extruded powder coated continous Curved grilles with 4 side flanges.Note : If required Contractor should blank off the extra portion of grille without additional cost and provide deflection of 0 deg to 45 deg.as per specifications.or as directed etc.without		

	extra Make:Dynacraft/ Cosmos/ Airproducts/System air	cost	
a	200mm wide	5	SQFT
b	150mm wide	2	SQFT
c	100mm wide	2	SQFT
d	100 mm wide curved grille with damper (For Flat oval / Round duct) Grille to be flush with the duct	2	SQFT
e	150 mm wide curved grille with damper (For Flat oval / Round duct) Grille to be flush with the duct	1	SQFT
f	200 mm wide curved grille with damper (For Flat oval / Round duct) Grille to be flush with the duct	1	SQFT
6.5	Continuous Slot Diffuser		
	Supply, installation,testing and commissioning of following Overall sizes of Aluminium extruded powder coated continous Slot Diffuser with 4 side flanges.with insulated plenum box with Suitable for slot diffuser Gypsem ceiling / Modular Ceiling / Tech zone ceiling Provide damper arrangement. Damper should be aluminum powder coated, multiple flap type. as per specifications.or as directed etc.Note : If required Contractor should blank off the extra portion of Slot Diffuser without additional cost. Make:Dynacraft/ Cosmos/ Airproducts/System air		
a	1 no. of slot with Overal size 59 mm.	10	RMT
b	2 nos. of slots with Overal size 91 mm	10	RMT
6.6	Sypply Air Square Diffusers		
	Supply, installation,testing and commissioning of Al. extruded powder coated Supply Air diffuser with damper flush type and with flush type and easily removable core construction with uniform air distribution. Provide damper arrangement. Damper should be aluminum powder coated, multiple flap type. Overall size given below. Make:Dynacraft/ Cosmos/ Airproducts/System air		
a	If size is not Finalize	100	SQFT
	296 mm x 296 mm (1' x 1')	1	NOS
c	446 mm x 446 mm (1 1/2' x 1 1/2')	1	NOS
d	596 mm x 596 mm (2' x 2')	1	NOS
6.7	Return Air Square Diffusers		
	Supply, installation,testing and commissioning of Al. extruded powder coated Return Air diffuser without damper flush type and easily removable core construction with uniform air distribution. Overall size given below. Make:Dynacraft/ Cosmos/ Airproducts/System air		

a	If size is not Finalize	100	SQFT
b	296 mm x 296 mm (1' x 1')	1	NOS
c	446 mm x 446 mm (1 1/2' x 1 1/2')	1	NOS
d	596 mm x 596 mm (2' x 2')	1	NOS
6.8	Supply Air Round Diffusers		
	Supply, installation of Al. extruded powder coated round diffusers with easily removable core construction with uniform air distribution. construction. Provide damper arrangement. Damper should be aluminum powder coated, multiple flap type. Supply Air diffuser with damper following Overall size Make:Dynacraft/ Cosmos/ Airproducts/System air		
a	If size is not Finalize	10	SQFT
b	225 mm dia (3/4')	1	NOS
c	300 mm dia (1')	1	NOS
d	375 mm dia (1 1/4')	1	NOS
e	450 mm dia (1 1/2')	1	NOS
f	525 mm dia (1 3/4')	1	NOS
6.9	Return Air Round Diffusers		
	Supply, installation of Al. extruded powder coated round diffusers with easily removable core core construction with uniform air distribution. construction. Without damper arrangement. R. A. diffuser without damper of following Overall size. Make:Dynacraft/ Cosmos/ Airproducts/System air		
a	If size is not Finalize	10	SQFT
b	225 mm dia (3/4')	1	NOS
c	300 mm dia (1')	1	NOS
d	375 mm dia (1 1/4')	1	NOS
e	450 mm dia (1 1/2')	1	NOS
f	525 mm dia (1 3/4')	1	NOS
6.10	Jet Nozzles		
	Jet NozzelMake:Dynacraft/ Cosmos/ Airproducts/System air		
	Supply & fixing of round type Jet Nozzles of Aluminium alloy extrusion adjustable type of following sizes.as per specifications.or as directed etc. complete..		
6.10.1	150 mm dia (6")	1	NOS

6.10.2	175 mm dia (7")	1	NOS
6.10.3	202 mm dia (8")	1	NOS
6.10.4	265 mm dia (10")	1	NOS
6.10.5	310 mm dia (1')	72	NOS
6.10.6	380 mm dia (1 1/4')	1	NOS
6.11	Aldes/Flow control type fresh air controller for all the indoor units		
	Make:Airflow		
a	200 CFM	1	NOS
b	150 CFM	1	NOS
c	100 CFM	10	NOS
d	70 CFM	10	NOS
e	60 CFM	10	NOS
f	50 CFM	10	NOS
g	30 CFM	15	NOS
6.12	Fire Dampers UL 555 and CBRI approved		
	Motorized fire damper UL555 with actuator Make:Cosmos with belimo controller / Ruskin Titus / Fire Damper & Belimo Actuators / Honey well /Caryaire		
	GI Fire damper UL 555 Make:Dynacraft/ Cosmos/ Airproducts/System air/Ruskin/Honeywell/Titus		
	Actuator for Damper Make:Belimo Actuators / Caryaire/ Servex/ Dynamic/Ruskin/Anergy		
	Fusibile Link For Fire Damper Make:Cosmos / Ruskin /Titus /Caryaire/System air		
	Supplying, installation, testing and commissioning of fire dampers, the blades and frame shall be min. 1.6 mm thick GI sheet and factory fitted in a sleeve made out of 1.6 mm thick GS Sheet of min. 400 mm long, as & where required, of required sizes including control wiring. The damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal. UL 555 CBRI tested and certified for 90 minute fire rating etc. complete as required and as per specifications.		
	SITC of Motorized actuator should be direct coupled spring return type, motorised, maintenance free direct coupled spring return type suitable to work on 24 V electric supply.		

	<p>The torque rating of the actuator shall exceed at least by 15% over torque required to open / close the damper. Should have manual over ride facility. The selection of actuator size shall be the responsibility of the manufacturer.</p> <p>Power on indicating lamps with 230 V / 24 V transformer, damper close & open indication, reset push button, push button for manual running of actuator for periodic inspection, auxiliary contacts 24V & 230 V, contact points to receive signal from smoke detector / fire alarm panel etc. should be provided.</p>		
1	SITC OFFire dampers in 16/18 G GI in supply air duct	90	SQFT
2	SITC of Fire damper in Return air	120	SQFT
3	SITC of Motorized actuators rated for fire dampers and spring return type (S.A. Duct)	15	NOS
4	SITC of Motorized actuators rated for fire dampers and spring return type (R.A.)	21	NOS
5	SITC of Fusible link as per specification UL 555 and CBRI approved. should be rated for 72 deg C. Each FSD shall be of multi leaf type, low leakage and shall be tested in the factory and will be certified by the manufacturer in form of the test certificate.	10	NOS
6	SITC of Control cabling, XLPE,2cx1.5 sq.mm copper armoured cable	150	RMT
7	SITC of Control Panel for Fire Damper	15	NOS
8	SITC of NRD (NON RETURN DAMPER)	30	NOS
6.13	Volume Control Dampers for Duct		
	Volume Control Dampers Make:-Dynacraft/ Cosmos/ Airproducts / Dynamic / Servex		
	Supply, installation, testing and commissioning of volume control dampers should be in GI at Machine outlet and in Branch duct. (Gear Operated and Low Leakage)	75	SQFT
6.14	Volume Control Dampers for Round/ Spiral & Flat Oval Duct		
	Volume Control Dampers Make:-Dynacraft/ Cosmos/ Airproducts / Dynamic / Servex		
	Supply, installation, testing and commissioning of volume control dampers should be in GI at Machine outlet and in Branch duct. (Gear Operated and Low Leakage)	24	SQFT
6.15	Volume Control Dampers for SA Collar		
	Volume Control Dampers Make:-Dynacraft/ Cosmos/ Airproducts / Dynamic / Servex		
	Supply and Installation of Black MS Box- Type Volume Control Dampers should be black powder coated finishing	60	SQFT


	for Collars.		
6.16	Fire Retardent Canvass Connections		
	Make:-ARAR Impex/Mauli Fire Safety/Canvass emporium/Reputed ,or as directed.		
	Supply, installation, testing and commissioning of Flexible double Canvas with Fire retardant Connections for AHU, FCU & FAN.	30	NOS
6.17	Flexible Duct		
	Supply, installation,testing and commissioning of following sizes of insulated flexible ducting with its matching supports and other accessories.Flexible Duct are made of flexible plastic over a metal wire coil to make round, with layer of fibreglass insulation.covers the duct Fibreglass insulation of minimum 14 kg.cu.m. density having a R-value 4.2 Deg F-Ft ² -hr/btu and 25 mm thk shall be wrapped over the inner core and covered with stronger outer jacket cum vapor barrier made of fibreglass reinforced metalized polyester film laminate and then a thin plastic layer protects the insulation. Flexible Duct & Insulation Material should be Fire Retardent.Flexible Connection from Collars to Grill , Diffuser etc to air Terminal, Flexible Duct length should not be exceded more than 1.5 meters for each connection. Make:Thermaflex / Owens corning / UP Twiga		
a	250mm dia.	30	RMT
b	200mm dia.	50	RMT
c	150mm dia.	20	RMT
d	100 mm dia	10	RMT
6.18	Outdoor Units COWL piece with rain protection louvers		
	Rain protection Louvers Make:-Dynacraft/ Cosmos/ Airproducts/System air		
a	Supply, installation, testing and commissioning of outdoor connection with Aluminiumanodised rain protection louvers, GI wiremesh, Bird screen, cowl & dampers.	60	NOS
6.19	Cable Trays		
	Make:-Gewiess / Legrand /AEON /AKG/Pilco/ MDM chennai/profab/ OBO		
6.19.1	Perforated Type Trays		
	Supply and installation of 14 SWG GI Perforated type trays in MS painted with tray supports of following sizes:		
a	300mm wide	600	RMTR
b	200 mm wide	300	RMTR

c	150mm wide	200	RMTR
d	100 mm wide	150	RMTR
6.20	Z-PIECES		
	GI Sheet Make:-Tata / Jindal / Sail		
	Nitrile rubber insulation		
	Supply, installation, testing and commissioning of Z-PIECES as per the supply air duct sizes shown in the drawings with Accoustic Insulation of 10mm thick Nitrile rubber Insulation from inside. Z piece sample to be approved at site before with PMC / Consultant / Arch before installation .as per specifications.or as directed etc. complete.. Make:-Armaflex/Thermaflex/A-flex/ K-flex/Superlon		
a	For Supply air duct sizes shown in the drawings	2000	SQFT
7.0	THERMAL & ACOUSTIC INSULATION		
	Nitrile rubber insulation Make:-Armaflex/Thermaflex/A-flex/ K-flex/Superlon		
	Fiber Glass Insulation:- UP Twiga/Owens corning		
7.1	Thermal Insulation for Duct		
	Supply, installation, testing and commissioning of Duct insulation with following type fixed with adhesive as per manufacturers specs Insulation should be with Class 1 as per BS476 Part 7 for surface spread of flame and also passes Fire Propagation requirement as per BS476 Part 6 to meet the Class 'O' Fire category. the insulation joints should be sealed with 3" wide Black Tape.Thermal conductivity of insulation material shall not exceed 0.037 W/(m.K) Density of insulation material shall be between 40 to 60 Kg/m3.Adhesive should be a solvent based with low voc& as per specifications.or as directed etc. complete..		
a	SITC of 13mm thick Nitrile Rubber , thermal Conductivity R Value 0.033 W/(M.K) & density 40 to 60 Kg/m3.	2000	SQFT
b	SITC of 10 mm thick Nitrile Rubber , thermal Conductivity R Value 0.033 W/(M.K) & density 40 to 60 Kg/m3.	7000	SQFT
7.2	Accoustic Insulation for Duct		
	Nitrile rubber insulation Make:-Armaflex/Thermaflex/A-flex/ K-flex/Superlon		
	Supply and installation of Acoustic lining of duct work with following type		

a	SITC of 10 mm thick Accoustic Open cell Nitrile Rubber stuck with SR 998	3500	SQFT
7.3	Accoustic Insulation for Ceiling Suspended AHU's (Armasound) Trap doors		
	Nitrile rubber insulation Make:-Armaflex/Thermaflex/A-flex/ K-flex/Superlon		
	Supply, installation, testing and commissioning of Acoustic insulation for AHU TRAPS		
a	SITC of 15 mm thick Open cell Nitrile Rubber Insulation with density 140 -180 kg/m3 (AHU Trap doors) with Ceiling Suspended AHU's Stuck as per manufacture specs	1200	SQFT
8.0	ELECTRICAL WORK		
8.1	POWER CABLES FOR ODU		
	Supply, laying, dressing, testing and commissioning of 1100V grade, aluminum/copper conductor, galvanized steel wire/strip armoured, PVC sheathed power and control cables of following sizes to be laid on trays/wall/racks , Power cables should be with double compression glands, and cable tray, as required. including clamping as per specifications.1100 V grade, aluminium/copper conductor, PVC insulated, steel Make:-Finolex / Havells / RR Kabel/ CCI / Gloster/Polycab		
d	SITC 4c x 2.5 sqmm YRY cable	200	RMT
8.2	POWER CABLES FOR IDU		
	Supply, laying, dressing, testing and commissioning of 1100V grade, aluminum/copper conductor, galvanized steel wire/strip armoured, PVC sheathed power and control cables of following sizes to be laid on trays/wall/racks , Power cables should be with double compression glands, and cable tray, as required. including clamping as per specifications.		
a	4c x 1.5 sqmm YRY cable (for 1 HP TO 10 HP IDU)	500	RMT
b	3c x 1.5 sqmm YRY cable	500	RMT
8.3	CONTROL CABLES FOR BETWEEN ODU AND IDU		
	Supply & Installation of All control cables between indoor and outdoor unit and between ODU & ODU laid in PVC pipe and clamped . cables should be with double compression glands, and cable tray, as required. including clamping as per specifications.		
a	2c x 1.5 sqmm YRY cable	1800	RMT
a	3c x 1.5 sqmm YRY cable	200	RMT
8.4	CONTROL CABLES FOR BETWEEN IDU AND THEIR		

REMOTE			
	Supply & Installation of All control cables between indoor and their Remote laid in PVC pipe and clamped .cables should be with double compression glands, and cable tray, as required, including clamping as per specifications.		
a	2c x 1.5 sqmm YRY cable	200	RMT
9.0	OTHER ACCESSORIES		
9.1	Drain Pump For AC Units		
	Supply, installation, testing and commissioning of Drain Pump for AC unit complete with supports, electrical cabling length suitable as per site condition and include all accessories for installation. Make:-Blue Diamond/Microdam/Refco		
a	Drain Pump (if required) for AC Unit Drain	12	NOS
9.2	Sequential Controller / Cyclic Timer		
	Supply, installation, testing and commissioning of Sequential Controller / Cyclic Timer complete with supports, electrical cabling length suitable as per site condition of following sizes Make:Proton/ Siemens		
a	2 AC unit (GR. FLOOR FIRE&IBMS ROOM) (1W+1S) + 6 NOS. FOR HUB ROOM (1W+1S)+SCADA ROOM SPLIT AC(1W+1S)	8	NOS
b	3 AC unit	1	NOS
c	4 AC unit (1ST FLOOR SERVER ROOM & STAFF ROOM) (2 W+2S)	1	NOS
d	5 AC unit	1	NOS
e	6 AC unit (UPS Room) (3W+3S)	1	NOS
	TOTAL VRV HI & LOW SIDE WORK - GST EXTRA		
	GST EXTRA AS APPLICABLE		

वर नमूद सुचित दर्शविलेल्या बाबींचे पुरवठा करणारे पुरवठादार/दुकानदार/उत्पादक/विक्रेते यांनी नमूद केलेल्या बाबींकरीता असलेले दर स्वतःच्या लेटरहेडवर महापालिकेच्या कार्यालयात अथवा ई-मेल द्वारे pmcbandhkamdept01@gmail.com यावर दिनांक 12/12/2023 पर्यंत पाठवावे ही विनंती, सदर दर हे अंदाजपत्रक तयार करणेसाठी गृहित धरणेत येणार आहेत.


कार्यकारी अभियंता (प्रकल्प)
पनवेल महानगरपालिका

जा.क्र पमपा/बांधकाम/ 2321 /प्र.क्र. 03 / 89९० (५) २०२३
दि. 9 / 12 / 2023