

**MODIFICATION OF EXISTING A-320 SIMULATOR I BUILDING TO ACCOMMODATE ATR 72 -
212 SIMULATOR AT CTE , FERZGUDA , HYDERABAD**

BILL OF QUANTITIES

Sl No	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
	Supply, installation, testing, commissioning of the following :				
	HVAC SYSTEM				
1	Supply , installtion ,testing and commissioning of Air Cooled Chiller Package consisting of multiple semi hermetic/hermitically sealed Scroll compressors suitable with <u>R407C/R 410 A</u> complete with suction valve, discharge valves, relief valve, crank case heaters and relays, purge & pressure relief valves & DX /Flooded chiller,Thermostatic/electronic expansion valve, microprocessor based control system including all safety interlocks, single phase preventor etc. complete				
a	Chiller Package -80 TR Nominal capacity	Set	1		
b	40 TR Nominal capacity	Set	1		
2	End suction and top discharge type pumps of capacity 192 USGPM at 30 Meters Head fitted with suitable Motor for chilled water pumping including mechanical seal & bronze impeller and insulation etc., complete	Set	2		
3	Supply , installtion ,testing and commissioning of Double skin floor mounted air handling units complete with filter section,water coil of copper tube and aluminium construction for chilled water,blower,motor , backward curve fan,Limit switch, canvas at unit out let,starter panel,,mounted on Spring isolaters & coil size shall be selected for a maximum face velocity of 500 FPM etc. as per the enclosed specifications.motor shall be suitable for 415+/-10% volts , 50 cycles , 3 phase ac supply				
a	30 TR / 12000 CFM/ 55 MM SPWG/ 6 ROW	Nos	2		

Sl No	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
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c	12 TR / 4800CFM/50MM SPWG/6 ROW	Nos	1		
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CHILLED WATER PIPING

4 Supply, laying on ground and under ground including excavation, testing & commissioning of the following heavy quality Class "C" MS Pipes cut to required lengths and installed with all welded joints, providing and fixing in position necessary fittings like bends, elbows, tees, reducers, mating flanges & sockets and insulation with 50 mm thick, 18 kg/cum density TF quality expanded polyesterene pre formed sections upto 80 mm dia pipes and 75 mm thick insulation for above 80 mm dia pipes finished with vapour barrier, chickenwire mesh and two coats of 12 mm thick sand cement plaster (exposed area's aluminium cladding is required)

a	100 mm Dia	Rmt	70		
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b	80mm Dia	Rmt	50		
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c	65mm Dia	Rmt	60		
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d	32 mm dia	Rmt	70		
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5 Supply, installation, testing & commissioning of Butterfly Valves as per specification .

a	100 mm Dia	Nos	4		
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b	80 mm Dia	Nos	8		
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c	65mm Dia	Nos	10		
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d	50 mm Dia	Nos	2		
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d	40mm Dia	Nos	7		
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e	32 mm Dia	Nos	7		
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6 Supply, installation, testing & commissioning of 'Y' Strainer/pot strainer of following sizes as per specification:

a	80 mm Dia	Nos	2		
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Sl No	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
b	65 mm Dia	Nos	2		
c	40 mm Dia	Nos	1		
d	32 mm Dia	Nos	1		
7	Supply, installation, testing & commissioning of 3-way modulating Valve with Actuator and related cabling:				
a	65 mm Dia	Nos	2		
b	40 mm Dia	Nos	1		
c	32 mm Dia	Nos	1		
8	Supply, installation, testing & commissioning of manual Balancing Valve as per the specification.				
a	65 mm Dia	Nos	2		
b	40 mm Dia	Nos	1		
c	32 mm Dia	Nos	1		
9	Supply, installation, testing & commissioning of NRV Valve as per the specification.				
a	80 mm Dia	Nos	2		
10	Supply, installation, testing & commissioning of Air Vents as per specifications	Nos	8		
11	Supply, installation, testing & commissioning of Thermometers as per specification.	Nos	22		
12	Supply, installation, testing & commissioning of Pressure guages as per specification	Nos	22		
13	Supply, installation, testing & commissioning of insulated 1000LTRS Expansion tank with all accessories as per specification	Nos	1		
14	Water flow switch with necessary accessories	Nos	4		

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15	Air separator suitable to the main header with all accessories.	Nos	1		
AIR DISTRIBUTION SYSTEM ,INSULATION AND GRILLS					
16	Supply , installation , testing and commissioning of Factory Fabricated GSS ducting complete with TDF flanges, high tech supports as per IS 655 & Class VIII specification				
a	1.00mm	Sqm	50		
b	0.80mm	Sqm	400		
c	0.63mm	Sqm	210		
17	Supply , installation , testing and commissioning of Acoustic insulation with 12 mm thk. Resin boned fiber glass of density 48 kg/ cum covered with RP tissue and 28 G AL perforated sheet	Sqm	100		
18	Supply , installation , testing and commissioning of 13mm thick nitrile rubber insulation for ducting Thermal insulation	Sqm	560		
19	Supply , installation , testing and commissioning of 25 mm thick class 'O' nitrile rubber insulation for floor and ceiling in computer rooms	Sqm	225		
20	Supply , installation , testing and commissioning of 300 mm dia I- ball jet diffusers along with insulated flexible duct (approx 1m) and damper	Nos	18		
21	Supply , installation , testing and commissioning of Extruded aluminum powder coated 4 way diffusers	Sqm	40		
22	Supply , installation , testing and commissioning of Extruded aluminum powder coated continuous grills	Sqm	40		
23	Supply , installation , testing and commissioning of MS coated collar dampers	Sqm	18		

Sl No	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
24	Supply , installation , testing and commissioning of volume control collar dampers made og 18 G GI sheets	Sqm	3		
25	50 mm thick TF quality thermocole with 18 kg/cum density support with 8 G Gire wire for under deck insulation	Sqm	450		
26	Supply , installation , testing and commissioning of blue color Hard PVC condensate drain pipe as per the specification				
a	100 mm Dia	Rmt	20		
b	40 mm dia	Rmt	10		
c	32 mm dia	Rmt	20		
27	22 Guage GI ducting with flanges as per specifications	SQM	100		
28	24Guage GI ducting with flanges as per specifications	SQM	70		
29	Removal of existing AHUs and removal of Existing duct and related supports and handing over the same to the stores in charge.The scope includes any tools and tackles required for completing the work.	LS	1		

TOTAL

(Rupees in words

Signature of the Contractor

Date :

Address of the Contractor: