



## HEATING VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM: HOUSE 251

Item No	BILL 1: HVAC SYSTEM (PRELIMINARIES AND GENERAL ITEMS)	Unit	Qty	Rate	Amount
	Allow for all costs and expenses in connection with the manufacture, painting, testing, supply, delivery, offloading and storage including site installation, painting and fixing in position of the following materials and equipment, including testing & commissioning.				
1.1	Site establishment, Travel, Transport, Overhead, Supervision, Stationary, Accommodation, etc.	Sum	1		
1.2	Providing "as built" drawings in Autocad and PDF version on flash.	Sum	1		
1.3	Comply with all Occupational Health, Safety and Environmental Laws and other Statutory Requirements	Sum	1		
1.4	Total price for Insurance of the Works and Construction Guarantee (Including Riot and Unrest)	Sum	1		
1.5	First Aid and Medical Supplies for use on Site				
1.6	Small building works including choring, painting, drilling, making good, etc.	Sum	1		
1.7	Recovery of R22 refrigerant gas from the existing installation and disposing in accordance to global standards	Sum	1		
1.8	Removal of all old AC indoor and outdoor plant, including refrigerant piping, communication cabling, electrical wires and cables.	Sum	1		
1.9	Cranage on site including for the installation of the Outdoor unit at the specified location	Sum	1		
1.10	Training of personnel on usage of new equipment	Sum	1		
1.11	Providing draft copies of the Installation, Operation and Maintenance Manual prior to commissioning of the	No.	1		
1.12	Providing 3 final copies of the Installation, Operation and Maintenance Manual prior to the issue of the Taking-Over Certificate (Hard copies and soft copy in a flash)	No.	1		
1.13	Operating Instructions and Signage, as specified including coding and tagging	Sum	1		
1.14	Inspections, tests, etc. of equipment, and quality control and assurance throughout the complete Works by the contractor. Material samples, where required all welds X-rayed and examined by an approved authority etc.	Sum	1		
1.15	Arrangements shall be made for Engineer to inspect equipment before they are dispatched to site. The contractor shall make arrangements that these inspections are carried out within the boundaries of South Africa and Lesotho	Sum	1		
1.16	Checking, starting up, testing and commissioning of the complete Works.	Sum	1		
1.17	Maintaining the Works during the 12 months Defects Liability Period and Maintenance inspection in accordance with Scope of Work	Sum	1		
1.18	Allow for builders work on ceiling breaking and making good as well as any associated paint work	m <sup>2</sup>	30		
1.18	Provision of all Test Certificates.	Sum	1		
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Item No	BILL 2: HVAC SYSTEM (House 251)	Unit	Qty	Rate	Amount
	Allow for all costs and expenses in connection with the manufacture, painting, testing, supply, delivery, offloading and storage including site installation, painting and fixing in position of the following materials and equipment, including testing & commissioning.				
2	AIR CONDITIONING UNITS				
2.1	Heat recovery system				
2.1.1	Outdoor units				
	REYQ20U				
	Unit steel stand	Material	No.	1	
		Labour	No.	1	
2.1.2	BS boxes				
	BS4Q14AV1B - Branch selector unit	Material	No.	1	
		Labour	No.	1	
	BS6Q14AV1B - Branch selector unit	Material	No.	2	
		Labour	No.	2	
2.1.3	Indoor units				
	FXAQ25A wall units complete with associated	Material	No.	4	
		Labour	No.	4	
	Condensate pump/s	Material	No.	4	
		Labour	No.	4	
	FXZQ25A Mini cassette complete with cover and any associated accessories	Material	No.	4	
		Labour	No.	4	
	FXZQ40A Mini cassette complete with cover and any	Material	No.	3	
		Labour	No.	3	
	FXZQ50A Mini cassette complete with cover and any associated accessories	Material	No.	3	
		Labour	No.	3	
	KHRQ23M29T9 refnet branch piping kit	Material	No.	1	
		Labour	No.	1	
	KHRQ23M29T9 refnet branch piping kit	Material	No.	1	
		Labour	No.	1	
	Madoka remote controller - White	Material	No.	15	
		Labour	No.	15	
2.1.4	R410 refrigerant charge	Material	kg	35	
		Labour	kg	35	
2.1.5	Commissioning		No.	10	
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	Balance from previous page				
2.1.6	Refrigerant piping complete with amaflex insulation materials				
	ø6.35mm Refrigerant piping with insulation	Material	m	125	
		Labour	m	125	
	ø9.5mm Refrigerant piping with insulation	Material	m	20	
		Labour	m	20	
	ø12.7mm Refrigerant piping with insulation	Material	m	190	
		Labour	m	190	
	ø15.9mm Refrigerant piping with insulation	Material	m	125	
		Labour	m	125	
	ø19.1mm Refrigerant piping with insulation	Material	m	80	
		Labour	m	80	
	ø22.2mm Refrigerant piping with insulation	Material	m	25	
		Labour	m	25	
	ø28.6mm Refrigerant piping with insulation	Material	m	90	
		Labour	m	90	
	Provisional sum for condensate piping		Lots	1	
2.1.7	Electrical & control wiring. Electrical connections between the isolators and split units, and all interconnecting wiring between the units and the	Material	Lots	1	
		Labour	Lots	1	
2.1.8	16mm 5 core cable	Material	m	100	
		Labour	m	100	
2.1.9	Electrical				
	16A surface mounted sockets outlets for the indoor units	Material	No	15	
		Labour	No	15	
2.1.10	3core cable (2.5mm) for the HVAC socket outlets	Material	m	120	
		Labour	m	120	
2.1.11	Three phase mains monitor with surge protection	Material	No	1	
		Labour	No	1	
2.2	Earth works to prepare the outdoor unit space (clearing, concrete works and leaving the area ready for the unit installation		Lots	1	
2.3	List any other materials required to complete the				
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COMPLETE MECHANICAL WORKS BOQ: HOUSE 251

	BILL OF QUANTITIES		TOTAL
	MECHANICAL SERVICES WORKS		
Bill No.	SECTION SUMMARY - OVERALL	Page No.	
1	Preliminaries and generals	1	
2	HVAC system	3	
3	CONTINGENCY		R 20,000.00
	TOTAL PRICE FOR THE MECHANICAL INSTALLATION : ADD ITEMS 1 TO 2 ABOVE		