



NKANGALA DISTRICT MUNICIPALITY



INSTALLATION, REFURBISHMENT OF AIRCON CHILLERS FOR NKANGALA DISTRICT MUNICIPALITY BUILDING (RE-ADVERT)

BILL OF QUANTITIES

C2.2 BILL OF QUANTITIES – INSTALLATION, REFURBISHMENT OF AIRCON

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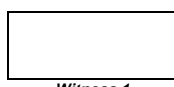
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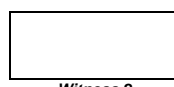


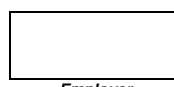
SCHEDULE RATE			
CHILLER 1 - CONTROLS AND ELECTRICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Chiller Controller (Programmable) Complete With Digital Display and Operating Buttons	1		
Extension Module	1		
Electronic Expansion Valve Module	2		
Condenser Fan Drivers	3		
Electronic Expansion Valves	2		
Head Pressure Sensor	2		
Head Pressure Safety Switch	2		
Back Pressure Sensor	2		
Discharge Temperature Sensor	2		
Suction Temperature Sensor	2		
PHE Temperature Sensor	1		
Outdoor Air Temperature Sensor	1		
Chilled Water in Temperature Sensor	1		
Chilled Water Out Temperature Sensor	1		
Water Flow Switch	1		
Control Wires	1		
Provision For Circuit Breakers	1		
Provision For Relays	1		
Accessories, Consumables and Utilities	1		
Labour Per Hour	1		

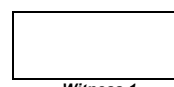
SCHEDULE RATE			
CHILLER 1 - MECHANICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Polyol Ester – POE63 Oil / Litre	16		
Refrigerant 407C / Kilogram	52		
Replacement Heat Exchanger Insulation	1		
Replacement Chilled Water Piping Insulation, including painting and cladding	1		
Accessories, Consumable and Utilities	1		
Labour Per Hour	1		
Mileage	780		
CHILLER 1 TOTAL:			R

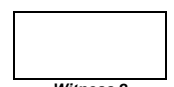

Tenderer


Witness 1


Witness 2


Employer


Witness 1


Witness 2



+SCHEDULE RATE			
CHILLER 2 - CONTROLS AND ELECTRICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Chiller Controller (Programmable) Complete With Digital Display and Operating Buttons	1		
Extension Module	1		
Electronic Expansion Valve Module	2		
Condenser Fan Drivers	3		
Electronic Expansion Valves	2		
Head Pressure Sensor	2		
Head Pressure Safety Switch	2		
Back Pressure Sensor	2		
Discharge Temperature Sensor	2		
Suction Temperature Sensor	2		
PHE Temperature Sensor	1		
Outdoor Air Temperature Sensor	1		
Chilled Water in Temperature Sensor	1		
Chilled Water Out Temperature Sensor	1		
Water Flow Switch	1		
Control Wires	1		
Provision For Circuit Breakers	1		
Provision For Relays	1		
Accessories, Consumables and Utilities	1		
Labour Per Hour	1		
Mileage	780		

SCHEDULE RATE			
CHILLER 2 – MECHANICAL UPGRADE			
Description	Quantity	Unit price	Amount ®
Polyol Ester – POE63 Oil / Litre	16		
Refrigerant 407C / Kilogram	52		
Replacement Heat Exchanger Insulation	1		
Replacement Chilled Water Piping Insulation, including painting and cladding	1		
Accessories, Consumable and Utilities	1		
Labour Per Hour	1		
Mileage	780		
CHILLER 2 TOTAL			R

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Witness 1

Witness 2

Employer

Witness 1

Witness 2



SCHEDULE RATE			
CHILLER 3 - CONTROLS AND ELECTRICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Chiller Controller (Programmable) Complete With Digital Display and Operating Buttons	1		
Extension Module	1		
Electronic Expansion Valve Module	2		
Condenser Fan Drivers	3		
Electronic Expansion Valves	2		
Head Pressure Sensor	2		
Head Pressure Safety Switch	2		
Back Pressure Sensor	2		
Discharge Temperature Sensor	2		
Suction Temperature Sensor	2		
PHE Temperature Sensor	1		
Outdoor Air Temperature Sensor	1		
Chilled Water in Temperature Sensor	1		
Chilled Water Out Temperature Sensor	1		
Water Flow Switch	1		
Control Wires	1		
Provision For Circuit Breakers	1		
Provision For Relays	1		
Accessories, Consumables and Utilities	1		
Labour Per Hour	1		
Mileage	780		

SCHEDULE RATE			
CHILLER 3 - MECHANICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Polyol Ester – POE63 Oil / Litre	16		
Refrigerant 407C / Kilogram	52		
Replacement Heat Exchanger Insulation	1		
Replacement Chilled Water Piping Insulation, including painting and cladding	1		
Accessories, Consumable and Utilities	1		
Mileage	780		
CHILLER 3 TOTAL:			R

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Witness 1

Witness 2

Employer

Witness 1

Witness 2



SCHEDULE RATE			
CHILLER 4 - CONTROLS AND ELECTRICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Chiller Controller (Programmable) Complete With Digital Display and Operating Buttons	1		
Extension Module	1		
Electronic Expansion Valve Module	2		
Condenser Fan Drivers	3		
Electronic Expansion Valves	2		
Head Pressure Sensor	2		
Head Pressure Safety Switch	2		
Back Pressure Sensor	2		
Discharge Temperature Sensor	2		
Suction Temperature Sensor	2		
PHE Temperature Sensor	1		
Outdoor Air Temperature Sensor	1		
Chilled Water in Temperature Sensor	1		
Chilled Water Out Temperature Sensor	1		
Water Flow Switch	1		
Control Wires	1		
Provision For Circuit Breakers	1		
Provision For Relays	1		
Accessories, Consumables and Utilities	1		
Labour Per Hour	1		
Mileage	780		

SCHEDULE RATE			
CHILLER 4 - MECHANICAL UPGRADE			
Description	Quantity	Unit price	Amount (R)
Polyol Ester – POE63 Oil / Litre	16		
Refrigerant 407C / Kilogram	52		
Replacement Heat Exchanger Insulation	1		
Replacement Chilled Water Piping Insulation, including painting and cladding	1		
Accessories, Consumable and Utilities	1		

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Witness 2 81

Employer

Witness 1

Witness 2



Accessories, Consumable and Utilities	1		
Labour Per Hour	1		
Mileage	780		
CHILLER 4 TOTAL			R

SCHEDULE RATE			
PROGRAMMING AND COMMISSIONING			
Description	Quantity	Unit price	Amount (R)
Programming including integration and commissioning	1		
Mileage	260		
PROGRAMMING AND COMMISSIONING TOTAL:			R

SCHEDULE RATE			
PUMP 1 – PUMP OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Impeller	1		
Replacement Shaft	1		
Drive End Bearing	1		
Non Drive End Bearing	1		
Spacer Ring	1		
Impeller Lock Nut	1		
Shaft Seal	1		
Impeller Shaft Key	1		
Gasket Set	1		
Replacement Complete Coupling	1		
Consumables, Utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		

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Witness 1

Witness 2 82

Employer

Witness 1

Witness 2



SCHEDULE RATE			
PUMP 1 – ELECTRIC MOTOR OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Drive End Bearing	1		
Replacement Non Drive End Bearing	1		
Consumables, utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		
PUMP 1 TOTAL:			R

SCHEDULE RATE			
PUMP 2 – PUMP OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Impeller	1		
Replacement Shaft	1		
Drive End Bearing	1		
Non Drive End Bearing	1		
Spacer Ring	1		
Impeller Lock Nut	1		
Shaft Seal	1		
Impeller Shaft Key	1		
Gasket Set	1		
Replacement Complete Coupling	1		
Consumables, Utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		

SCHEDULE RATE			
PUMP 2 – ELECTRIC MOTOR OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Drive End Bearing	1		
Replacement Non Drive End Bearing	1		
Consumables, utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		
PUMP 2 TOTAL:			R

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Witness 1

Witness 2

Employer

Witness 1

Witness 2



SCHEDULE RATE			
PUMP 3 – PUMP OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Impeller	1		
Replacement Shaft	1		
Drive End Bearing	1		
Non Drive End Bearing	1		
Spacer Ring	1		
Impeller Lock Nut	1		
Shaft Seal	1		
Impeller Shaft Key	1		
Gasket Set	1		
Replacement Complete Coupling	1		
Consumables, Utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		

SCHEDULE RATE			
PUMP 3 – ELECTRIC MOTOR OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Drive End Bearing	1		
Replacement Non Drive End Bearing	1		
Consumables, utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		
PUMP 3 TOTAL:			R

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Witness 1

Witness 2

Employer

Witness 1

Witness 2



SCHEDULE RATE			
PUMP 4 – PUMP OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Impeller	1		
Replacement Shaft	1		
Drive End Bearing	1		
Non Drive End Bearing	1		
Spacer Ring	1		
Impeller Lock Nut	1		
Shaft Seal	1		
Impeller Shaft Key	1		
Gasket Set	1		
Replacement Complete Coupling	1		
Consumables, Utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		

SCHEDULE RATE			
PUMP 4 – ELECTRIC MOTOR OVERHAUL			
Description	Quantity	Unit price	Amount (R)
Replacement Drive End Bearing	1		
Replacement Non Drive End Bearing	1		
Consumables, utilities and accessories (All)	1		
Labour Per Hour	1		
Mileage	260		
PUMP 4 TOTAL:			R

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Witness 1

Witness 2 85

Employer

Witness 1

Witness 2



SUMMARY TABLE OF THE BILL

CHILLER 1-4	R
PROGRAMMING AND COMMISSIONING	R
PUMP 1-4	R
SUB-TOTAL	R
VAT @ 15%	R
TOTAL	R
TOTAL AMOUNT TO BE FORWARDED TO THE FORM C 1.1 (FORM OF OFFER)	

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Witness 1

Witness 2

Employer

Witness 1

Witness 2