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P·A·C·O·F·S

PERFORMING ARTS CENTRE
OF THE FREE STATE

an agency of the
Department of Sport, Arts and Culture

BID NUMBER : BID/HVAC/CAPEX/2/2022

**THE HEATING, VENTILATION AND AIR
CONDITIONING (HVAC) PROJECT**

MECHANICAL RETURNABLES

SEPTEMBER 2022



MECHANICAL ENGINEER:

iX Engineers (Pty) Ltd
BLOEMFONTEIN
TEL: 051 411 8040

PERFORMING ARTS CENTRE OF THE FREE STATE

**SAND DU PLESSIS THEATRE:
HVAC SYSTEMS**

PROJECT SPECIFICATION

PART 1.2: MECHANICAL RETURNABLES

1. GENERAL

This part of the specification shall be fully completed by the Tenderer. Failure to do so may invalidate the tender. Information not provided shall imply that the equipment offered complies with the specifications, written or implied. The Engineer has the right to order removal and replacement of any equipment not conforming to the written or implied specifications.

The Contractor shall ensure that all performance specifications can be verified on request. Verification may include physical tests which the Contractor shall then do at his own cost

All performance specifications shall be provided at the site conditions.

2. VOLUME CONTROL DAMPER

DESCRIPTION	UNIT	VD-1	VD-1
Make / manufacturer			
Model no.			
Type			
Size	mm		
Air flow	l/s		
Pressure loss	Pa		
Finish			

3. FILTER BOXES

DESCRIPTION	UNIT	FB-1	FB-2
Box make / manufacturer			
Filter make / manufacturer			
Filter type			
Size	mm		
Air flow	l/s		
Pressure loss	Pa		
Delta-P gauge make			
Finish			

3. VENTILATION FAN

DESCRIPTION	UNIT	FF-S3
Make / manufacturer		
Model no.		
Type		
Duty	l/s @ Pa	
Power requirements	V/Ø/Hz	
Finish		
Sound attenuator(s)		

4. VRF SYSTEM

DESCRIPTION	AC-S9 OUTDOOR
Make / manufacturer	
Country of origin	
Type	
Finish	
Leak Detection & Auto Charge Function	
Other	

DESCRIPTION	UNIT	INDOOR 2.8 kW	INDOOR 4.5 kW	AC-S9 BS-10
Model no.				
Total cooling capacity	kW			
Sensible cooling capacity	kW			
Heating capacity	kW			
Power requirements	V/Ø/Hz			
Power usage - cooling	kW			
Power usage - heating	kW			
Finish				
Duty	l/s			

5. INVERTER DUCTED SPLIT TYPE UNIT

DESCRIPTION	AC-S10	
Make / manufacturer		
Country of origin		
Model no.		
Refrigerant		
Type		
Finish		
Total cooling capacity	kW	
Sensible cooling capacity	kW	
Heating capacity	kW	
Power requirements	V/Ø/Hz	
Power usage - cooling	kW	
Power usage - heating	kW	
Duty	l/s @ Pa	

6. INVERTER UNDER CEILING SPLIT TYPE UNIT

DESCRIPTION	AC-S11	
Make / manufacturer		
Country of origin		
Model no.		
Refrigerant		
Type		
Finish		
Total cooling capacity	kW	
Sensible cooling capacity	kW	
Heating capacity	kW	
Power requirements	V/Ø/Hz	
Power usage - cooling	kW	
Power usage - heating	kW	
Duty	l/s	

7. CHILLER UNIT

DESCRIPTION	CH-S1 & CH-S2	
Make / manufacturer		
Country of origin		
Model no.		
Refrigerant		
Type		
Finish		
Total cooling capacity	kW	
Evaporator flow rate	l/s	
Evaporator entering temperature	°C	
Evaporator leaving temperature	°C	
Total heating capacity	kW	
Condenser flow rate	l/s	
Condenser entering temperature	°C	
Condenser leaving temperature	°C	
Power requirements	V/Ø/Hz	
Power usage - cooling	kW	
Power usage - heating	kW	

8. **INLINE HEATERS**

DESCRIPTION	IH-S1 & IH-S2	
Make / manufacturer		
Country of origin		
Model no.		
Stages		
Finish		
Heating capacity	kW	
Water flow rate	l/s	
Water entering temperature	°C	
Water leaving temperature	°C	
Operating pressure	kPa	
Test pressure	kPa	
Power requirements	V/Ø/Hz	
Power usage - heating	kW	

9. STORAGE TANKS

DESCRIPTION	UNIT	WT-S1	WT-S2
Make / manufacturer			
Model no.			
Type			
Dimensions (diameter x height)	mm		
Temperature range	°C		
Operating pressure	kPa		
Test pressure	kPa		
Weight empty	kg		
Power requirements	V/Ø/Hz		
Insulation			
Finish			

10. WATER PUMP SETS

DESCRIPTION	UNIT	WP-S1 & S2	WP-S3 & S4
Make / manufacturer			
Model no.			
Type			
Duty	l/s @ Pa		
Power requirements	V/Ø/Hz		
Temperature range	°C		
Finish			

11. CHILLED WATER AIR HANDLING UNIT

DESCRIPTION	AC-S08	
Make / manufacturer		
Country of origin		
Model no.		
Refrigerant		
Type		
Finish		
Total cooling capacity	kW	
Sensible cooling capacity	kW	
Power requirements	V/Ø/Hz	
Power usage - cooling	kW	
Duty	l/s @ Pa	