



# DEENDAYAL PORT AUTHORITY

ISO 9001:2008 | ISO 14001 | ISPS Compliant Port



Office of Executive Engineer (Electrical), Ground Floor, Nirman Building, New Kandla, Kutch,

Pin Code 370210.

No.: EL/AC/EOI/HVAC/

Date: 10/01/2025

## **EXPRESSION OF INTEREST [EOI]**

“HVAC for Green Energy Office, Deendayal Port Authority, AO Building, Gandhidham ”

(This EOI is issued to elicit Expression of Interest from the parties interested in the work and does not constitute any binding commitment from the Deendayal Port Authority to proceed with the work or invite any or all the parties in the subsequent bidding process. The Open Tenders will be issued subsequently.)

Executive Engineer (Electrical), DPA invites Expression of Interest for the work of “HVAC for Green Energy Office, Deendayal Port Authority, AO Building, Gandhidham” from the reputed firms from those who have executed similar work in Government/public sectors and other leading private organizations. The Expression of Interest (EOI) documents containing details are enclosed herewith.

The interested firms are requested to submit their expression of interest for the said work in BOQ format as enclosed at Annexure I. The completed EOI (Expression of Interest) shall be submitted to the office of the undersigned on or before 15/01/2025. A soft copy of EOI is also acceptable through e-mail Id [xenedpa@gmail.com](mailto:xenedpa@gmail.com) & [deepak.hazra@deendayalport.gov.in](mailto:deepak.hazra@deendayalport.gov.in)

Sd/-

Executive Engineer (E)  
Deendayal Port Authority



HVAC ESTIMATE FOR GREEN ENERGY OFFICE

HVAC SCHEDULE FOR @OFFICE BUILDING					
Sr. No.	Description of Item	Unit	Qty	Rate (in Rs.)	Amount
	The scope of work shall include the supply, installation, and commissioning of the outdoor/condensing unit, which shall consist of a variable speed type twin rotary or scroll compressor, designed for efficient performance with either a single or inverter-based compressor configuration. The unit shall also include a condenser coil, variable multi-speed condenser fan (which may be of the propeller or axial type), and high/low pressure switches to ensure the system operates within safe pressure limits. All interconnected refrigerant piping shall be included, ensuring proper refrigerant flow and system efficiency. The system shall be equipped with an inbuilt microprocessor-based electrical control panel, suitable for both indoor and outdoor (condensing) unit applications. This control panel must be capable of managing the voltage, current, and phase indicators, as well as include a continuous voltage scanner for monitoring power fluctuations and ensuring the system operates within the required electrical parameters. The control panel must also feature internal control cabling to allow for seamless integration with the overall system and shall be fully compatible with Building Management System (BMS) controls for centralized monitoring and management. The system must be designed to ensure ease of integration, efficient energy management, and operational reliability for the entire installation.				
1	Supply, Installation, Testing & Commissioning of Outdoor Unit of Air Conditioner shall have power supply of the system shall be capable of operating with a minimum of 50 Hz 380-415 V 3N~ or 60 Hz 380 V 3N~, as specified. The rated cooling capacity shall not be less than 56 kW, with a maximum cooling capacity not exceeding 63 kW or 215,000 Btu/h, whichever is applicable. The rated power input for cooling must be a minimum of 17.54 kW, and for heating, the rated power input shall not be less than 12.64 kW. The efficiency ratings of the unit shall include a minimum EER of 3.19 W/W for cooling and a COP of at least 4.43 W/W for heating. The SEER shall be no less than 8.42 Wh/Wh, and the SCOP must be a minimum of 5.13 Wh/Wh, ensuring optimal performance across varying operational conditions. The Pdesign for heating at -10°C shall be a minimum of 31.0 kW, ensuring suitability for low-temperature operations. The outdoor fan must be of the propeller fan type, with a discharge direction to be top-mounted. The air flow rate for the outdoor fan at high speed shall be no less than 320 m <sup>3</sup> /min per unit. The fan motor shall be directly driven with an output of 900 W for each motor, with two motors in total. The compressor shall be of a hermetically sealed scroll type with a minimum motor output of 5,300 W per unit. The compressor shall operate with an inverter starting method and utilize FW68L(PVE) oil type, with a piston displacement of 62.1 cm <sup>3</sup> /rev per compressor, ensuring efficient operation and minimal maintenance. The heat exchanger shall utilize a wide louvered plus design to maximize heat transfer and efficiency. The exterior color of the unit shall be in Morning Gray and Dawn Gray, corresponding to RAL 7038 and RAL 7037 respectively. <b>Continue...</b>	Each	2		



HVAC ESTIMATE FOR GREEN ENERGY OFFICE

	<p>The refrigerant used in the system shall be R410A with a minimum precharged amount of 16.0 kg. The GWP of the refrigerant shall be no greater than 2,087.5, and the CO<sub>2</sub> equivalent (t-CO<sub>2</sub> eq.) shall not exceed 33,400, in compliance with environmental regulations. The control type shall be EEV for optimal refrigerant flow management. The connecting pipes shall have a minimum liquid pipe diameter of 15.88 mm (5/8 inch) and a gas pipe diameter of 28.58 mm (1-1/8 inch). For heat recovery applications, the low-pressure gas pipe shall have a diameter of 28.58 mm (1 1/8 inch), while the high-pressure gas pipe must have a minimum diameter of 22.2 mm (7/8 inch). The system shall be capable of connecting a minimum of 32 indoor units or better, depending on the conditions, ensuring scalability to meet diverse operational requirements. The sound pressure level of the outdoor unit shall not exceed 62 dB(A) during cooling operation or 63.5 dB(A) during heating operation. The sound power level of the outdoor unit must be no greater than 86 dB(A) during cooling and 89 dB(A) during heating, ensuring noise emissions remain within acceptable limits. The connecting communication cable (VCTF-SB) shall have a minimum cross-sectional area of 0.75 mm<sup>2</sup> x 2C, with a core configuration that meets the necessary operational standards. <b>END.</b> Approved Make - Samsung/Mitsubishi/ Blue Star / LG</p>				
2	<p><b>Supply, Installation, Testing &amp; Commissioning of</b> Round Decorative 4 Tonn Indoor Unit Shall have power supply for the system shall operate at a minimum of 50 Hz 220-240 V~ or 60 Hz 220 V~, ensuring compatibility with both standard and high-efficiency configurations. The indoor fan shall be capable of delivering a minimum airflow rate of 22 m<sup>3</sup>/min on high, 21 m<sup>3</sup>/min on medium, and 19 m<sup>3</sup>/min on low during cooling operation, ensuring effective air distribution across a range of settings. The drain pipe for systems utilizing a drain pump must have an outer diameter (O.D) of no less than 32 mm (1.26 inches) and an inner diameter (I.D) of 25 mm (1 inch), ensuring proper drainage capacity for optimal performance. The sound pressure level of the indoor unit during cooling shall not exceed 39 dB(A) on high speed, 37 dB(A) on medium speed, and 34 dB(A) on low speed. Similarly, during heating operation, the sound pressure level shall not exceed 39 dB(A) on high speed, 37 dB(A) on medium speed, and 34 dB(A) on low speed, ensuring minimal noise levels during operation. The sound power level of the indoor unit in cooling mode shall not exceed 48 dB(A) on high speed, 46 dB(A) on medium speed, and 43 dB(A) on low speed. In heating mode, the sound power level shall also be no greater than 48 dB(A) on high speed, 46 dB(A) on medium speed, and 43 dB(A) on low speed, maintaining quiet operation under various conditions. The product type shall be a round cassette, designed for ease of installation and aesthetics in a variety of environments. The net dimensions of the unit shall be a minimum of 1050 mm in width, 330 mm in height, and 1050 mm in depth, ensuring a compact yet effective unit for space-saving installations. The liquid connecting pipe shall have a minimum diameter of 9.52 mm (3/8 inch) and the gas connecting pipe shall be no less than 15.88 mm (5/8 inch), providing reliable connections for optimal refrigerant flow. <b>Continue...</b></p>	Each	8		



HVAC ESTIMATE FOR GREEN ENERGY OFFICE

2.2	The nominal cooling capacity shall be no less than 7.10 kW, and the nominal heating capacity shall be at least 8.00 kW, ensuring that the unit meets the necessary demands for both cooling and heating, with a balance of performance and efficiency. Unit Shall Supplied With All required Accessories as On required on Site for High site Central Remote Controller All ODU Refrigerant Joints with insulation 1 All DU Refrigerant Joints with insulation,7 Cordless Remote Controller 8 A. <b>END.</b> Approved Make - Samsung/Mitsubishi/ Blue Star / LG				
3	Supply, Installation, Testing & Commissioning of All refrigerant piping between indoor & outdoor units should be neatly brazed and pass through sleeves provided in columns/beams.At terrace level and inside the air-conditioning area, refrigerant piping should be insulated with 13mm Thick Closed Cell Elastomeric Nitrile Tube Insulation with painted Starbond-30-36 fire retardant high-grade flexible adhesive and sealant.	Rmt	200		
4	Supply, Installation, Testing & Commissioning of Power & Control cables between indoor and outdoor units laid in PVC pipe and duly epoxy coated black painted	Rmt	250		
5	Supply, Installation, Testing & Commissioning of Fabricated ODU Stand:	Nos	2		
6	Supply, Installation, Testing & Commissioning of 32mm PVC Drain piping for the units with 6mm Thick Closed Cell Elastomeric Nitrile Tube Insulation and duly epoxy coated Black painted clamped .	Rmt	75		
7	Supply, Installation, Testing & Commissioning of 25mm PVC Drain piping for the units with 6mm Thick Closed Cell Elastomeric Nitrile Tube Insulation and duly epoxy coated Black painted clamped .	Rmt	50		
8	Supply, Installation, Testing & Commissioning of Hardwere Material	Lott	1		
9	Supply, Installation, Testing & Commissioning of Gas 410	KG	30		

(Rupees \_\_\_\_\_ )

(NOTE: The rates should be inclusive of all taxes, duties, fees, cess etc. and all incidental charges; but exclusive of Goods & Service Tax).

Sd/-

Seal & Signature of  
The Contractor

Executive Engineer (Elect.)  
Deendayal Port Authority