

REFERENCE OF TENDER	DESCRIPTION OF TENDER	TIME PERIOD OF TENDER	DEPARTMENT/DIVISION/UNIT REQUESTING TENDER	FEES	CLOSING DATE NOT LATER THAN 2.00PM	FOCAL PERSON
KK/229/2024/ESTETMOH (TC)	<p>COMPREHENSIVE MAINTENANCE SERVICES FOR REFRIGERANT AIR-CONDITIONING AND VENTILATION UNDER PENGIRAN ISTERI HAJAH MARIAM (PIHM) HOSPITAL TEMBURONG FOR A PERIOD OF THREE(3) YEARS</p> <p><b>Eligibility For Tenderers:</b> Registered with Ministry of Health and Ministry of Development</p> <p><b>Class:</b> II above <b>Category:</b> M01 &amp; E01</p>	3 YEARS	ESTET MANAGEMENT & PROJECT DEVELOPMENT	\$30.00	29 <sup>TH</sup> OCT 2024	<p>Acting Assistant Director of Project Development Estet Management &amp; Project Development Ministry of Health Negara Brunei Darussalam Contact No : 2381640 ext 7926/7924/7928</p>

**NOMBOR TAWARAN: KK/229/2024/ESTETMOH(TC)**

**KEMENTERIAN KESIHATAN  
NEGARA BRUNEI DARUSSALAM**

**COMPREHENSIVE MAINTENANCE SERVICES FOR REFRIGERANT  
AIR-CONDITIONING AND VENTILATION UNDER PENGIRAN ISTERI  
HAJAH MARIAM (PIHM) HOSPITAL TEMBURONG FOR A PERIOD OF  
THREE(3) YEARS**

**YURAN TAWARAN: \$30.00**

**NOMBOR RESIT :**

**TARIKH TUTUP : HARI SELASA, 29HB OKTOBER 2024**

**JAM : 2.00 PETANG**

**KEPADA :**

**PENGERUSI LEMBAGA TAWARAN KECIL  
PETI TAWARAN, TINGKAT BAWAH  
BANGUNAN KEMENTERIAN KESIHATAN  
COMMONWEALTH DRIVE  
BANDAR SERI BEGAWAN BB 3910  
NEGARA BRUNEI DARUSSALAM**

**(CLUSTERING)**

# SPECIFICATIONS / SCOPE OF WORKS

TENDER REFERENCE NO: KK/229/2024/ESTETMOH(TC)

## INVITATION TO TENDER COMPREHENSIVE MAINTENANCE SERVICES FOR REFRIGERANT AIR-CONDITIONING AND VENTILATION UNDER PENGIRAN ISTERI HAJAH MARIAM (PIHM) HOSPITAL TEMBURONG FOR A PERIOD OF THREE (3) YEARS

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### 1. GENERAL

- Tenderers are sought from suitably qualified contractors who wish to be considered for the provision of maintenance services (hereinafter referred to as “Maintenance Services”) for Refrigeration, Air Conditioning and Ventilation (hereinafter referred to as “the System”) at the locations set out in **SUMMARY OF TENDER – List of Equipment** for a duration of Three (3) Years.
- The Tenderer shall provide Maintenance Services for the System inclusive of all necessary spare parts and replacement parts to ensure that the System is kept in good working order and condition and functioning efficiently within the manufacturer’s specification. The Maintenance Services consist of:
  - Preventive Maintenance
  - Corrective Maintenance
- All prices to be quoted shall include labor, parts and transport charges.
- The Tenderer shall also ensure that technical services shall be available twenty-four (24) hours a day for the convenience of the Government to provide assistance for any emergency service. In the event that any attended calls are made during the preventive maintenance period, there shall not be any charges for the replacement of parts.

### 2. MAINTENANCE SERVICES

#### 2.1 PREVENTIVE MAINTENANCE

- Scheduled or routine preventive maintenance, which includes testing and inspection, on the system shall be performed during Government working hours (07.45 am – 12.15 pm and 01.00 pm – 04.30 pm).
- The Tenderer shall dispatch his technician to a site specified by the Superintending officer or his representative within 3 hours (hereinafter “Response Time”) after being notified in writing or telephone that a fault is reported via a “Service Call Slip” which the Tenderer shall collect prior to commencing the repair or replacement works. This Service Call Slip must be certified by the Superintending officer or his representative with an official stamp, time in, time out and date.
- Preventive maintenance shall be performed in accordance with the maintenance schedules set out in **Schedule II – Plant Preventive Maintenance Schedules (PPM) recommended** by the manufacturers’ service manuals.
- Although the maintenance schedules may not include instructions for every component of each item of the equipment, the Tenderer is expected to carry out the usual maintenance process in accordance with the normal trade practices and to meet specific requirements of the respective equipment’s manufacturer’s recommendations.
- The frequencies of the preventive maintenance may be adjusted by mutual agreement, to suit the duty and conditions of operation of the system’s equipment.

- Where follow – up work is considered necessary and involves further repairs the Tenderer shall notify the Superintending Officer of the extent of the repairs before proceeding with the work.
- The Tenderer shall ensure that downtime of any of the equipment within the system is kept to a minimum. The maximum period for which any equipment to be continuously out-of service shall be **three (3) days**. A penalty of **B\$100.00 per day** shall be imposed if the said there period is exceeded and that, it is in the opinion of the Superintendent Officer, the system ought reasonably to have been put back to service.
- The Tenderer is also required to submit monthly reports covering details of periodic inspection servicing and repairs. The monthly report shall include, but not limited to, a log showing time when fault notice was received, nature of fault, time when rectification works was initiated, actual time taken for repair, materials and parts used.

## 2.2 ADDITIONAL SERVICES

- The Tenderer shall service the existing control panels such as tightening the cable, terminations, replacement of fused indicating lights, faulty meters, tidying up the internal wirings, relays, components and boards.
- The Tenderer is also required to provide necessary protection against the existing plants and equipment in the adjacent working areas while carrying out the Maintenance Services.

### ▪ PERSONNEL

- To ensure the proper and efficient execution of the maintenance services, the Tenderer shall provide and employ qualified and competent workers to perform the Maintenance Services as follows:
  - One (1) registered Engineer
  - Four (4) registered technician/supervisor consisting of:
    - One (1) Electrical
    - Two (2) Aircon
    - One (1) Chemical
  - Two (2) tradesmen
- Failure to provide the required personnel to carry out the Maintenance Services will result in an imposition of the following charges:
 

○ Engineer	-	<b>B\$100/day</b>
○ Supervisor/Technician	-	<b>B\$75.00/day</b>
○ Tradesman	-	<b>B\$50.00/day</b>
- The Tenderer shall ensure that such personnel are properly trained and employed (if they are employed outside of Brunei Darussalam) by the Tenderer throughout the contract duration.
- The Tenderer is required to submit a list of names, addresses, qualification, experiences and other relevant information that the Superintending Officer may require.
- The Superintending Officer reserves the right to remove, reject or replace any persons employed by the Tenderer, who in the opinion of the Superintending Officer is not competent to execute the maintenance Services and shall direct the Tenderer to replace such person/s.

- All personnel employed by the Tenderer shall be neatly and properly attired in uniforms and equipped with proper tools and safety equipment to enable them to carry out their work safely, accurately and without any risk of causing damage to the system or any part of the building within the contract.

### 3. INSURANCE

- The Tenderer shall warrant that he will maintain at his own expense, comprehensive general liability, errors and omissions, workers' compensation, public liability, property damage and automobile liability insurance. Upon request by the Government, the Tenderer shall furnish certificates showing that such insurance is in effect and will not be cancelled or changed in the absence of a prior 30-days' written notice to the Government.

### 4. LOG BOOKS AND REPORTS

- A record of the work done on each maintenance visit for each location in **Schedule A** shall be noted in a log book by the Tenderer.
- The log book must show the date, time and duration of work performed; a description of work performed and the name of the Tenderer's personnel responsible for performing the work.
- Completion of the maintenance visit shall be affixed via the technician's signature and shall be confirmed in writing by the Superintending Officer or his representative or End-User.
- The log book must be available for inspection by the Government at any time.
- The Tenderer shall also submit Maintenance Service Reports in a format acceptable the Government and shall include the following information.
  - Reference number of any equipment of the system;
  - Job number;
  - Date of completion of job;
  - Date, time and total time any equipment of the system is made unavailable to the Government;
  - Name of Tenderer's technician/personnel responsible for carrying out the job; and
  - Comments of the person requesting the Maintenance Services.
- Any verbal reports made by the EMS on any breakdown shall be made available to the Superintending Officer or his representative within twenty-four (24) hours of receiving the complaint. Such report must state the nature of the fault, work done and whether any further work is required.

### 5. EQUIPMENT AND TOOLS

- The Tenderer shall insure that all technicians working on site are equipped with adequate equipment and/or tools to enable them to carry out their work safely, accurately and without risk of causing any damage to the system or any of the buildings. Such equipment and tools include as listed out but are not limited to the following:
  - Multitester
  - Insulation Tester
  - Test pin
  - Fuse
  - Indicator panel bulbs
  - General Tool kit

## 6. CONTRACT PRICE AND PAYMENT

- The Tenderer shall quote the cost of an annual service contract which shall consist of the maintenance services charges and the cost of parts replaced – **Schedule III** (if any), upon receipt of:
  - One (1) original invoice;
  - One (1) duplicate invoice;
  - Service Call Slip;
  - A detailed Maintenance service Report
- The Contractor shall submit the invoice of the previous month **on the first week of the following month**. All claims shall be addressed to:

*Pengiran Isteri Hjh Mariam Hospital  
Head of Section  
Estate Management Pengiran Isteri Hjh Mariam Hospital, Temburong  
Ministry of Health  
Negara Brunei Darussalam*

- Payment will be made within forty-five (45) days after submission of the invoice and other related documents, subject to any deduction under the Contract and satisfactory certification by the Government during the preceding month.

## 7. CONSUMABLES

- Consumable items as listed out in **Consumables items** shall be deemed to be included in the rates and prices for the maintenance services. No additional claims shall be entertained for these items.

## 8. USE OF SITE

- The Tenderer shall not use the site for any purpose other than that of carrying works in connection with the performance of the contract
- The Tenderer shall at all times keep the site clear and free from all surplus materials, rubbish, debris arising from the execution of the works and shall keep the site in a clean condition.

## 9. HEALTH AND SAFETY, PRECAUTION AGAINST CONTROL

- The Tenderer shall provide all necessary measure, comply with all health and safety regulations and rules that are force, and comply with all orders and instructions given to him from time to time by the Superintending Officer in regard to health and safety persons in the vicinity of the site and including safety and other regulation in force in the Hospital, Health Centers and Clinics and any requirements of local authority and/or public service authority. No claim by the Tenderer for additional payment shall be allowed on the grounds of any misunderstanding or misinterpretation due lack of knowledge of these conditions, regulations and requirements.

**SCHEDULE I**

**SUMMARY OF TENDER (LIST OF EQUIPMENTS)**

Item No.	Plant/Equipment	Location	SERVICE PRICE RATE				
			2 Monthly (A)	6-Monthly (B)	TOTAL AMOUNT SERVICE RATE (A + B)	Quantity	Total Amount Service Rate (A + B) x Quantity
1.	Air Cooled DX Condensing Unit	PIHM Temburong, Pejabat Kesihatan, Pos Kawalan labu, Clinic within Temburong	\$ x 4	\$ x 2	\$	04	\$
2.	Precision Unit and Outdoor/indoor unit	Server Room and Cold Room	\$ x 4	\$ x 2	\$	04	\$
3.	Split Units / Cassette type / Suspended Ceiling Complete Set	PIHM Temburong, Pejabat Kesihatan, Pos Kawalan labu, Clinic within Temburong	\$ x 4	\$ x 2	\$	204	\$
4.	Room Air Conditioner	PIHM Temburong, Pejabat Kesihatan, Pos Kawalan labu, Clinic within Temburong	\$ x 4	\$ x 2	\$	25	\$
5.	Air Curtain	PIHM Temburong, Pejabat Kesihatan, Pos Kawalan labu, Clinic within Temburong	\$ x 4	\$ x 2	\$	04	\$
TOTAL PLAN PREVENTIVE MAINTENANCE FOR 1 YEAR (B\$)							\$
GRAND TOTAL PLAN PREVENTIVE MAINTENANCE FOR THREE (3) YEARS (B\$)							\$
TOTAL PLAN PREVENTIVE MAINTENANCE FOR THREE (3) YEARS (B\$)							\$

**NOTE:**

Contractor must comply with Schedule A specification / Scope of Works item no 8 and to include list of consumable item in the quoted service rate.

## SCHEDULE II

### PLANT PREVENTIVE MAINTENANCE SCHEDULE

#### PREVENTIVE MAINTENANCE SCHEDULES / CHECKLISTS

Equipment AHU & FCU	Maintenance 2-Monthly Service	2M/AHU
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**.\* Not Applicable to Temburong PIHM Hospital**

1. Switch off plant. Remove and clean filters by washing. If disposable – replace as necessary.
2. Check cooling coil for dust and algae. Clean by using approved cleaner, soft brush (and pressure spray pump for AHU's). Straighten damaged fins with fin comb.
3. Check condensate line, pan and trays for damage, blockage. Clean as necessary with chemical and test for easy water flow. Replace approved condensate pan treatment tablets for FCU's (consumable).
4. Check and service controls and devices for correct operation ie. Motorized valves and dampers, step controllers, thermostat, humidistats, smoke detectors, duct heaters, air flow switch, high temperature cutout etc. report/repair if faulty.
5. Check and record temperature/humidity and settings ie. SA and RA temperature, chilled water in and out temperature, humidity etc.
6. Check V-belts for correct tension and wear. Replace worm belts from stock (consumable). Readjust tension where necessary. As a guide V-belt tension should be ¾" to 1¼" deflection or see manufacturers information.
7. Pulley drives to be checked for secure fixing, if loose to be tightened. Alignment of pulleys to be checked and adjusted as necessary using straight-edge or string line.  
  
Note: Recheck tension of v-belts after adjustment.
8. Check motor and Fan Bearings for wear, noise and lubrication Lubricate. Failed bearing are over lubricated will be replaced at the contractors expense.  
  
Noise and wear to be investigated and reported. If found to be too severe, unit should be left switched off and reported immediately. Shaft couplings, if fitted, to be checked for wear and secure fitting.
9. Fans and fan housing to be checked for secure fitting & cleaned by brush and vacuum. Fan blades to be inspected for any signs of damage, looseness and reported if found.
10. Check electrical connections for damage or looseness; repair or tighten as required. Clean any dust build up on motors and electrical panels and clean. Check for noisy contractors, timers, change-over relays-service.  
Check carbon brushes and replace if necessary (consumable)  
Check and record running amps. Replace any defective indicator lights, fuses etc.
11. Check, fix back or report internal and external duct insulation if loose or damaged.
12. Check AHU panels for secure fixing. Replace any missing screws (consumable). Check panel seals and repair/replace if leaking.
13. Check AHU panels for rust/corrosion, wire brush and repaint affected area with anti-rust paint. Report any damage.



14. Clean AHU panels and the plant room and leave it tidy. (AHU room is not to be used as a “store”).
15. Replace plant room lighting as necessary.

Equipment AHU & FCU	Maintenance 6- Monthly Services	6M/AHU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.
2. Conduct vibration analysis: Check all alignments to specifications.
3. Check Motor amperage should not exceed manufacturer's specification.
4. Perform analysis on oil and filter. Change if necessary. Check oil pump and seals. Check oil heater an thermostat.
5. Check for condenser and evaporator tube corrosion and clean as needed.
6. Indications include: poor water quality, excessive fouling, and age of chiller.
7. Clean coil with cleaner using a pressure jet pump
8. Any other manufacturer's recommendation for six-monthly maintenance

Equipment AHU & FCU	Maintenance Annual Services	Y/AHU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.
2. Change all V-belts.
3. Dry base of unit and paint internally with anti-rust paint.
4. Paint external surface, including fresh air intake grille, with quick drying glossy paint of similar colour to original.
5. Test smoke damper manually; report if defective.
6. Meg the AHU/FCU motor and record.
7. Re-surfacing of slip ring and changing of shaft bearing, (both front and back). Carry out insulation testing (> 1 meg).
8. Replace carbon brush for all slip ring motor. (to be replaced in complete sets)
9. Clean coil with cleaner using a pressure jet pump

NOTE: Where cooling coils are very dirty and clogged up special cleaning procedure shall be carried out: discharge air duct shall be disconnected (if possible) or a temporary bypass shall be provided between the supply and return air side; the coil shall be sprayed (with the blower running) with approved concentrated cooling coil cleaning chemical and washed down repeated until the coil is clean;

Equipment Ductwork AHU, FCU & Ventilation Fan	Maintenance 2-Monthly Services	2M/D
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the AHU, FCU & Ventilation fan service at no additional cost.
2. Visually inspect for air leaks, condensation; repair or report.  
Visually inspect internal and external duct installation and vapour barrier for damage repair or report. Check flexible connections for secure fixing and damage.
3. Clean diffusers and grilles by soft brush and vacuum.
4. Washable filters should be removed from the unit for cleaning. Filters should be cleaned with air / water hose passing through the filters in the opposite direction.
5. After washing, the filters must be installed following the direction of the airflow arrow.

Equipment Ductwork	Maintenance 6-Monthly Services	6M/D
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the AHU, FCU & Ventilation fan service at no additional cost.
2. Carry out monthly service.
3. Lightly brush and vacuum clean internally where possible (including volume dampers, control sensors air heaters etc in duct).
4. Wash all return and supply grilles and diffusers with mild non-abrasive cleaner, do not dirty walls or ceiling whilst cleaning grilles and diffusers.

Equipment Electrical Control Panels/Switch Board	Maintenance 2-Monthly Services	2M/EP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the Plant (AHU, Pumps, Cooling Towers etc.) service at no additional cost.
2. Check electrical connections for looseness and damage, retighten as necessary or report. Inspect indicator lights and fuses; replace any defective.
3. Check proper operation of controls and safety devices, noisy contractors, timers, change-over relays, etc. and record settings.
4. Check contractors for burnt or dirty contacts, service or report. Spray clean contacts with contact cleaners if still usable; otherwise replace.
5. Clean out dust, cobwebs etc.

Equipment Electrical Control Panels/Switch Board	Maintenance 6-Monthly / Annual Services	6M/A /EP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the Plant (AHU, Pumps, Cooling Towers etc.) service at no additional cost.
2. Carry out 2 monthly services.
3. Prepare external surface (including conduits and trunking) and repaint with quick drying glossy paint of similar colour to original.

Equipment DX Air Cooled Condensing Unit (more than 25TR)	Maintenance Daily Service	D/DXACCU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Daily check and record operating conditions ie. Temperature, pressures, amps, oil level, suction and discharge temperature/pressure, air on/off temperatures etc., Oil level in sight-glass should be ½ to 2/3 full. If low -top up as necessary and record amount used.

Check operation of crankcase heaters. Inspect sight glass for moisture and bubbles and report. Check and record suction superheat.

Equipment DX Air Cooled Condensing Unit (more than 4TR)	Maintenance 2-Monthly Service	2M/DXACCU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out 1D Maintenance (unit more than 25TR only).
2. Check condensing coil for dust/dirt build up. Clean by using approved cleaner, soft brush and pressure spray pump. Straighten damaged fins with fin comb.
3. Check Condensing unit for vibration and damage; test pipework for leaks with leaks with leak detector.
4. Check operating and safety controls and record settings. Check electrical connections for damage or looseness, repair or tighten as required. Clean any dust build up on motors and electrical panels.  
Check for noisy contractors, timers, change-over relays.  
Check and record running amps. Replace any defective indicator lights, fuses etc.
5. Check V-belts for correct tension and wear. Replace worn belts from stock (consumable). Readjust tension where necessary as a guide V-belts tension should be ¾" to 1¼" deflection or see manufacturers information.
6. Pulley drives to be checked for secure fixing, if loose to be tightened. Alignment of pulleys to be checked and adjusted as necessary using straight-edge or string line.  
**Note:** Recheck tension of V-belts after adjustment.
7. Check motor and Fan Bearings for wear, noise and lubrication Lubricate. Failed bearing are over lubricated will be replaced at the contractors expense.

Noise and wear to be investigated and reported. If found to be too severe, unit should be left switched off and reported immediately. Shaft couplings, if fitted, to be checked for wear and secure fitting.

8. Fans and fan housing to be checked for secure fitting & cleaned by brush and vacuum. Fan blades to be inspected for any signs of damage, looseness and reported if found.
9. Check condensing unit for secure fixing, replace missing screws/fasteners.
10. Clean condensing unit panels and area.

Equipment DX Air Cooled Condensing Unit (more than 4TR)	Maintenance 6-Monthly / Annual Service	6M/Y/DXACC
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out Monthly Maintenance.
2. Meg compressor windings and fan motors.
3. Check and clean electrical contractor all electrical connections, check and replace any defective fuse-holder and service electrical components.
4. Check compressor oil by chemical analysis.  
Change compressor oil and refrigerant filter; Test run and trim refrigerant charge.
5. Prepare external surface (including conduits and trunking) and repaint with quick drying glossy paint of similar colour to original.

Equipment DX Air Cooled Split Unit	Maintenance 2-Monthly Services	2M/ACSU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Switch off plant. Remove and clean filters by washing. If disposable-replace as necessary.
2. Check cooling coil and condensing coil for dust and algae. Clean by using approved cleaner, soft brush and pressure jet pump. Straighten damaged fins with fin comb.
3. Check condensate line, pan and trays for damage, blockage. Clean as necessary with chemical and test for easy water flow. Replace approved condensate pan treatment tablets (consumable).
4. Check and service controls and devices for correct operation ie. Motorized valves and dampers, step controllers, thermostat, humidistats, smoke detectors, duct heaters, air flow switch, high temperature cutout etc. report/repair if faulty.
5. Check and record supply/return air temperature and room humidity and settings.
6. Check V-belts for correct tension and wear. Replace worn belts (consumable). Readjust tension where necessary as a guide V-belts tension should be ¾" to 1¼" deflection or see manufacturers information.
7. Pulley drives to be checked for secure fixing, if loose to be tightened. Alignment of pulleys to be checked and adjusted as necessary using straight-edge or string line.  
**Note:** Recheck tension of V-belts after adjustment.

8. Check motor and Fan Bearings for wear, noise and lubrication Lubricate. Failed bearing are over lubricated will be replaced at the contractors expense.  
Noise and wear to be investigated and reported. If found to be too severe, unit should be left switched off and reported immediately. Shaft couplings, if fitted, to be checked for wear and secure fitting.
9. Fans and fan housing to be checked for secure fitting & cleaned by brush and vacuum. Fan blades to be inspected for any signs of damage, looseness and reported if found.
10. Check electrical connections for damage or looseness; repair or tighten as required. Clean any dust build up on motors and electrical panels. Check for noisy contractors, timers, change-over relays. Check and record running amps. Replace any defective indicator lights, fuses etc.
11. Check panels for secure fixing. Replace any missing screws. Check panel seals and repair/replace if leaking.
12. Check panels for rust/corrosion, wire brush and repaint affected area with anti-rust paint. Report any damage.

Equipment DX Air Cooled Split Units	Maintenance 6 –Monthly / Annual Service	6M/Y/ACSU
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.  
Note: For wall, floor, ceiling, cassette type split unit the refrigerant should be pump-down and the FCU must be brought down for general servicing. Prior to the completion the FCU must be reinstalled with adequate Freon charge any additional Freon will be included in annual servicing price.
2. Change all V-belts.
3. Dry base of unit and paint internally with anti-rust paint where applicable.
4. Paint external surface with quick drying glossy paint of similar colour to original (including conduits and trunking).
5. Test smoke damper manually; report if defective.
6. Meg compressor windings and fan motor.

Equipment Water pumps	Maintenance 2-Monthly Service	2M/WP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Check shaft seal glands for excessive water leaks. For packing type gland adjust/replace so as to allow a steady drip of water. For mechanical seal report for replacement.
2. Check coupling, pulleys, anti-vibration connection, insulation and mountings, insulation etc. for secure fixing and wear, rectify and/or report for repair. Check pump and motor bearings and signs of wear.
3. Check and record suction and discharge pressure running amps, direction of rotation.
4. Check electrical connections for damage or looseness; repair or tighten as required. Clean any dust build up on motors and electrical panels. Check for noisy contractors, timers, change-over relays. Check and record running amps. Replace any defective indicator lights, fuses etc.

5. Clean motor vents, slip ring, inspect and replace carbon brush holder, carbon brushes as necessary (consumable). Check and tighten electrical connections.
6. Valve glands to be checked for leaks, packing to be tightened or replaced as necessary.
7. Change over to standby pump as schedule.

Equipment Water pumps	Maintenance 6 –Monthly Service	6M/WP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.
2. Clean water pump strainers.
3. Lubricate pump and motor bearings sparingly.
4. Wire brush rust/corrosion and repaint with red oxide/anti rust paint.
5. Check operation of non-return water valves.

Equipment Water pumps	Maintenance Annual Services	A/WP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out 6-Monthly service.
2. Meg pump motor and record.
3. Prepare and repaint outer surface with similar colour paint to original.
4. Re-surfacing of slip ring and changing of shaft bearing, (both front and back). Carry out insulation testing (> 1 meg).
5. Replace carbon brush for all slip ring motor (to be replaced in complete sets).

Equipment Condenser/Chilled Water Pipe work/Expansion Tank	Maintenance 2-Monthly Service	2M/MP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the pumps, cooling towers, water chiller plants etc. service at no additional cost.
2. Check correct level of extension tank and make up water (1/3 height of tank).
3. Check pipe work, flexible joints, brackets, supports etc. for secure fixing and vibration; make good/report as necessary.
4. Inspect and rectify or report water leaks, damaged pipe insulation.
5. Inspect all valves for gland packing leaks; replace or tighten gland packing as necessary.
6. Check correct operation of flow-switch, air vent, flow meters, water pressure gauges etc.

Equipment Condenser/Chilled Water Pipe work/Expansion Tank	Maintenance 6-Monthly / Annual Service	6M/Y/P
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. This service is to be done together with the pumps, cooling towers, water chiller plants etc. service at no additional cost.
2. Carry out 2-monthly service.
3. Drain and clean out make up tank and expansion tank; treat with anti-rust paint. Test valve operation, examine and report any leakage.
4. Operate all valves and record number of turns on valve spindle and return to original setting.
5. Open all air-vents and bleed system; report/service any defective automatic air-vents.
6. Prepare and repaint outer surface with similar color paint to original.

Equipment Ventilation Fans (wall/ glass/ceiling mounted)	Maintenance 2-Monthly Service	2M
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1. Clean inlet/outlet grilles and fan blades, fan housing etc. clean air filter or replace as necessary.
2. Check V-belts for correct tension and wear. Replace worn belts as necessary (consumable). Readjust tension where necessary as a guide V-belts tension should be ¾" to 1¼" deflection or see manufacturers information.
3. Pulley drives to be checked for secure fixing, if loose to be tightened. Alignment of pulleys to be checked and adjusted as necessary using straight-edge or string line.  
**Note:** Recheck tension of V-belts after adjustment.
4. Check motor and Fan Bearings for wear, noise and lubrication Lubricate. Failed bearing are over lubricated will be replaced at the contractors expense. Noise and wear to be investigated and reported. If found to be too severe, unit should be left switched off and reported immediately. Shaft couplings, if fitted, to be checked for wear and secure fitting.
5. Check electrical connections for damage tighten as required. Carry-out as per service/4.
6. Clean the plant room and leave it tidy (Plant room not to be used as a 'Store').
7. Replace plant room lighting as necessary.

Equipment Ventilation Fans	Maintenance 6-Monthly / Annual Service	6M/A/VF
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NOTE: Not required for window mounted exhaust fans (small)

1. Carry out Monthly service.
2. Lubricate bearings sparingly.
3. Change all V-belts.
4. Prepare and repaint outer surface with similar colour paint to original.

5. Check and record running amps. Meg fan motors and record.

Equipment Cold Room	Maintenance 2-Monthly Services	2M/CR
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Inspect indicating lights and cold room lights; replace as necessary.
2. Check defrost heaters, door heaters, drain pipe heaters etc. check and record running amps of the compressor condenser fans, evaporator fans and heaters.
3. Inspect fan and motor bearings.
4. Check and record store temperature gauge reading.
5. Inspect store insulation, doors, floor etc for damage and report.
6. Clean the condensing unit, comb straight dented fins. Check system for leaks, noise and vibration. Check oil level and top up as necessary.
7. Carry-out as Service/4.

Equipment Cold Room	Maintenance Annual Services	A/CR
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out 2-monthly service.
2. Clean condensing coil and evaporate with approved chemical if necessary.
3. Meg compressor windings and fan motor.
4. Prepare and repaint outer surface with similar colour paint to original.

Equipment Room Air Conditioners / Split Unit / Cassette Type / Suspended Ceiling	Maintenance 2-Monthly	2M/RAC
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1. Wash the air filter or replace if necessary.
2. Brush and vacuum clean the cooling coil and comb straight fins if found dented.
3. Check for noise and vibration. Correct any loose fasteners, mounting etc.
4. Check any coil freezing during operation.
5. Clean condensate drain pan, drain pipe of sludge and slime etc.
6. Check and record running current of the compressor and fan motor.
7. Inspect and service controls and safety components.



Equipment Room Air Conditioners / Split Unit / Cassette Type / Suspended Ceiling	Maintenance 6-Monthly / Annual Service	6M/A/RAC
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1. Remove from installed site to workshop, replace with service unit if required and carry out 2-monthly service.
2. Meg compressor windings and fan motors.
3. Clean coil with proper chemical cleaner using a pressure jet pump. Do not dirty the wall while cleaning.
4. Prepare and repaint outer surface with similar color paint to original.

Equipment Monitoring Panel	Maintenance 2-Monthly Service	2M/SMP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Inspect indicator bulbs, replace defective.
2. Check for noisy contractors.
3. Clean out dust within panels.
4. Inspect and tighten electrical and control wire connection etc.
5. Check condition and operation of fuses, overloads, timers, earth fault relays, circuit breakers, smoke detector, transformers, metering devices etc. and replace or report any defective.
6. Check for correct sequence of operation of the controls.

Equipment Monitoring Panel	Maintenance 6 Monthly / Annual Service	6M/A/SMP
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.
2. Prepare and repaint outer surface with similar colour paint to original.

Equipment Air cooled Liquid Chillers	Maintenance Daily Service	D/ACLC
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**\*\* Not Applicable to Temburong PIHM Hospital**

1. Daily Record system operating conditions. Report any trend or adverse conditions for example:  
Oil, suction and discharge pressure. Entering and leaving water temperature and pressure, check compressor oil level oil pressure should be 20 to 30 PSI above suction pressure. Record chiller running amps and compressor running amps.
2. Inspect indicator lights, gauges etc. and replace any found defective. Check system for leaks, noise, vibration etc.  
Carry out area cleaning.

Equipment	Maintenance	2M/ACLC
Air cooled	2-Monthly Service	
Liquid Chillers		

**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out daily maintenance.
2. Check panels for secure fixing. Replace any missing screws. Check panel seals and repair/replace if leaking.
3. Clean condensing coil; comb fin straight if found dented. Clean the Plant room area.

Equipment	Maintenance	6M/Y/ACLC
Air cooled	6-Monthly / Annual Service	
Liquid Chillers		

**\*\* Not Applicable to Temburong PIHM Hospital**

1. Carry out monthly service.
2. Meg compressor windings and fan motors.
3. Tighten all electrical connections, check and clean contactors. Check all fuse clips and replace defective fuse holder, inspect and service all electrical safety components.
4. Perform chemical analysis of oil.
5. Inspect cooler tubes and clean if necessary.
6. Change compressor oil and refrigerant filter.
7. Test run and trim the refrigerant charge.
8. Prepare and repaint outer surface with similar colour paint to original.

**Note:**

Manufacturer's instructions for maintenance shall be followed in conjunction with these guides

## LIST OF TOOLS

### LIST OF TOOLS AND INSTRUMENTS TO BE USED THROUGH OUT THE CONTRACT PERIODS

Items No.	Names of Tools/Instrument	Size/Range	Quantity	Y/N
1	Vacuum Pump	For Commercials/ Domestic Plant	2 nos	
2	Screw Driver	Various Sizes	4 Sets	
3	Philip Screw Driver	Various Sizes	4 Sets	
4	Alan Key	Various Sizes	4 Sets	
5	Ratchet	1/4 " - 3/8 "	4 Sets	
6	Socket Set (metric)	Various Sizes	4 Sets	
7	Open End /Ring Spanner	Various Sizes	4 Sets	
8	Adjustable Spanner	6" 8" 10" & 12"	4 nos each	
9	Torque Wrench	80-250lbs	1set	
10	Manifold Gauge for R12 & R134 Machines	-	2 set each	
11	Pipe Wrench	12" & 24"	2 nos each	
12	Oxygen & Acetylene Set (small cylinder)		1 set	
13	Pressure Pump (Complete Set)	800-1200 watts	2 sets	
14	Ladder	8 steps & 12 steps	2 nos each	
15	Flaring Set	Various Sizes	1 set	
16	Torch Light		4 nos	
17	Extension Light		2 nos	
18	Extension Wire complete (3 core)	10m & 30m (long)	2 set each	
19	Long nose Plier, Side cutter Plier & Plier		4nos each	
20	Portable Arc Welding (complete)		1 set	
21	Hose	20- 30m (long)	4 nos	
22	Wet and Dry Vacuum Cleaner		2 nos	
23	Vernier Clipper		2 nos	
24	Hack saw		2 nos	
25	Junior Hacksaw		2 nos	
26	Bearing Puller	3-12kg	2 nos	

Items No.	Names of Tools/Instrument	Size/Range	Quantity	Y/N
27	Ball Hammer and Mallet		2 nos each	
28	Water Flow Meter		1 no	
29	Air Velocity Meter		1 no	
30	Sling Physcrometer		2 nos	
31	Multi Meter Tester		4 nos	
32	Amps Meter		2 nos	
33	Megger Meter		2 nos	
34	Safety Shoes		19 nos	
35	Overall/Uniform with clear logo/name of the company		38 nos	
36	Hand Gloves		19 nos	
37	Eye protection ( glass/plastic)		8 nos	
38	Ear Muff/ Protector		8 nos	
39	Safety Helmet		8 nos	
40	First Aid Kit (Complete)		2 sets	
41	Fire extinguisher	BFC 2.5Kg)	2 sets	
42	Halide Detector		2 nos	
43	Electric Drill & Rechargeable Battery Drill		2 nos each	
44	Drill bit	Various size for Concrete, Metal and wood	2 sets	
45	Push Car/ trolley		2 nos	
46	Grease Gun		2 nos	
47	Thermo-hydrograph		4 nos	
48	Roto jet Machine Complete Set (Chillers Annual Servicing)		1 no	

**Note:**

List of items (1- 48) are require through out the contract and must be available within 14 days of commencing works/ contract starts. Any items are not listed, may be useful and require, Tenders are required to fill in the blank form provided.

## **CONSUMABLES ITEMS**

### **LIST OF CONSUMABLES ITEMS**

Consumables items to be paid within the contract conditions including labour, supervision, testing and commissioning. To be used at any time when required throughout the contract period.

1. Replace Belting of all types and various sizes
  - a) Air Handling Units (N/A for Temburong PIHM Hospital).
  - b) Fan coil Units (N/A for Temburong PIHM Hospital).
  - c) Central Exhaust Fan (N/A for Temburong PIHM Hospital).
  - d) Cooling Towers (N/A for Temburong PIHM Hospital).
  - e) All Refrigeration, Air conditioning and Ventilation Plant
2. Bearing/ Bush of All Refrigeration, Air conditioning and Ventilation Plant (Any types and sizes)
3. Painting and Cleaning material to all Refrigeration, Air conditioning and Ventilation Plant, piping, electrical grade contact spray for all switch board, Control Panel and etc.
4. Motor terminal & compressor thermal overload i.e., klixon, etc
5. Any type of air filters.
6. Rubber mounting for compressor, motor etc
7. Flare nut, Flare Union, crews, fastener, nuts and bolts (any types and sizes)
8. Approved chemicals for cleaning coil (in any amount) when ever required.
9. Service valves or charging port for compressor.
10. Fuses, Cables lugs, Connector and etc (any types and amps)
11. 13A and 15A Plug Top
12. Repair leaks c/w recharge refrigerant to full running capacity for all refrigerant, air-conditioning system and Ventilation Plant (The item shall be used when ever the unit not cooling / undercharge due to leak in the system) for R11, R12, R134A, R407, R410A and etc.
13. Nitrogen at any amount when required
14. Denso / Duct and Refrigerant Pipes insulation Tape (to repair damage of All Refrigeration, Air conditioning and Ventilation Plant)
15. Roll Filter for AHU, FCU, etc
16. Indicator bulbs for all type of switch board, indicator panel etc.
17. All type of Battery for remote Control.

**SCHEDULE III**  
**SPARE PARTS LIST**

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
	<b>COLD ROOM / Precision Type unit / Negative Room</b>			
1.	Cooling Thermostat			
2.	FCU digital controller switch to control fan speed and temperature.			
3.	Smoke Detector (Any Brand) 220V-240V			
4.	Re-insulation of Ducting with 2"/2ibs. Fiber glass & aluminum foil			
5.	To fabricate, supply & install Ducting c/w 2"/2ibs. Fiber glass & aluminum foil			
6.	To fabricate, supply & install Ducting Aeroflex			
7.	Replaceable air pre-filters, disposable, adhesive coated fiber glass with resistance not less than 80% :			
a.	24" x 24" x 2"			
b.	12" x 24" x 2"			
8.	Medium efficiency filter ultra fine glass fiber media suitably supported and reinforced, initial resistance (clean) shall be 4"w.g @500rpm air velocity dust spot efficiency 85% suitable for insulation in AA ASTROSEAL or as approved by BESS:			
a.	24" x 24" x 12"			
b.	24" x 12" x 12"			
9.	High efficiency filter HEPA type in metal frame water proofed, fire retardant, efficiency not less than 95% by DOP initial resistance not less than 1"w.g:			
a.	24" x 24" x 12"			
b.	24" x 12" x 12"			
10.	Fine dust filters			
11.	Ultra Fine V- filters			
12.	Camfil absolute filters type MDEPA, air velocity 0.186m <sup>3</sup> /S670m <sup>3</sup> /h, 250Pa:			
a.	Size 457mm x 457mm x 150mm			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
b.	Size 610mm x 610mm x 150mm			
13.	Alpha cell HEPA filters Size 12' x 24' x 11.5'			
14.	To supply and install extruded aluminium 4-way Supply Air Diffuser c/w aluminium opposed blade volume control damper			
a.	Size: 600mm x 600mm			
b.	Size: 300mm x 300mm			
15.	Magnetic Contractor (DC coil volt):			
a.	15 -35 Amps			
b.	36 – 60 Amps			
16.	Magnetic Contractor (AC coil volt):			
a.	15 -35 Amps			
b.	36 – 60 Amps			
17.	Fuse(any type / size):			
a.	Up to 10 amps			
b.	11 - 50 amps			
18.	Single PVC cable surface wiring in PVC / G.I metal conduit or with trunking:			
a.	1.5 mm <sup>2</sup>			
b.	2.5 mm <sup>2</sup>			
c.	4 mm <sup>2</sup>			
d.	6 mm <sup>2</sup>			
e.	10 mm <sup>2</sup>			
f.	16 mm <sup>2</sup>			
19.	4-core armoured cable PVC/SWA/PVA, XPLE wiring on heavy gauge epoxy coated G.I metal trunking c/w aluminium, saddles, steel brackets, gland, cable lug, shrinking insulation, etc ..... Rating: 1000VAC, 3Ph, 50Hz:			
a.	1.5 mm <sup>2</sup>			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
b.	2.5 mm <sup>2</sup>			
c.	4 mm <sup>2</sup>			
d.	6 mm <sup>2</sup>			
e.	10 mm <sup>2</sup>			
f.	16 mm <sup>2</sup>			
g.	25 mm <sup>2</sup>			
20.	Refrigerant Gas, etc.....			
a.	Refrigerant R32 /Kg			
b.	Refrigerant R134a, 407, 404, R410A, /Kg			
c.	Nitrogen /Kg			
21.	Compressor Oil suitable for refrigerant systems			
22.	Moisture & Liquid Indicator (Sight Glass):			
a.	3/8" - 1/2"			
b.	5/8 – 1 1/8"			
23.	Liquid line solenoid valve c/w solenoid coil (24/110/240V 50Hz) any size:			
a.	3/8" - 1/2"			
b.	5/8 – 1 1/8"			
24.	Refrigerant high pressure hand valves for Refrigerant line:			
a.	3/8" - 1/2"			
b.	5/8 – 1 1/8"			
25.	PVC drain pipe c/w fittings (bends, elbows, traps, tees etc.):			
a.	Pipe size below 1" dia.			
b.	Pipe size Above 1" dia.			
26.	G.I drain pipe c/w fittings (bends, elbows, traps, tees etc.)			
a.	Pipe size below 1" dia.			
b.	Pipe size Above 1" dia.			
TOTAL C/F				



ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
27.	Hi pressure cut out switch 0-450 psig auto /manual reset			
28.	Low pressure cut out switch 0-200 psig auto /manual reset			
29.	Oil pressure control switch auto/manual reset			
30.	Refrigerant filter drier (any type / size)			
31.	Re-insulation of refrigerant line with Aeroflex /Super ton c/w Denso tape			
32.	Re-insulation of drain line with Aeroflex /Superlon c/w Denso tape			
33.	Drain/condensate pipe (any size) with all necessary fittings including the following:			
a.	Aeroflex insulation			
b.	Hacking and concealed on concrete floor with mosaic tiles			
c.	Exposed drain pipe			
34.	Earth Fault Relay			
35.	Earth Leakage Relay			
36.	Phase Monitor Protection Relay			
37.	CT Coil (any type / size)			
38.	Microprocessor Display Board c/w reprogramming (any Brand / Type)			
39.	To identify and repair leak for any type of chiller with the following capacity and run the system back to normal working order:			
a.	Up to 5 TR			
b.	5 to 10 TR			
c.	Above 10 TR			
40.	To paint air-conditioning equipment / chilled water pipe line / condenser water pipe line including flow arrow indication and supporting brackets with approved type paint (1 layer undercoat anti-rust and 2 layer gloss paint)			
41.	Refrigerant (High / Low or Oil) Pressure Sensor or Switch(any type/size):			
a.	Thermistor Type			
b.	Transducer Type			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
42.	Refrigerant temperature sensor(any type/size):			
a.	Thermistor Type			
b.	Transducer Type			
43.	Compressor Oil heater (any type / size)			
44.	Control Transformer (any Type / size)			
45.	Step Down Transformer (any type / size)			
46.	Circuit breaker of the following capacity:			
a.	Up to 40 amps			
b.	41 to 60 amps			
c.	61 to 100 amps			
47.	Compressor service valve:			
a.	½ - ¾"			
b.	7/8 - 1 1/8"			
48.	To supply new Condenser fan motors (DX / cold room unit).			
a.	Below ½ Hp			
b.	1/2 - 1 Hp			
c.	2 - 3 Hp			
49.	To rewind DX Unit CU Fan motors c/w resurfacing, new bearings, rotors, stators & mounting any rpm 1ph or 3Ph, 240/415V, 50Hz with 9 months warranty:			
a.	Up to 1 Hp			
b.	1 Hp to 3 hp			
50.	Condenser Fan Blade for DX Unit (any type / size)			
51.	To supply new Axial fan motors c/w HyBlade Ass'y for condensing unit ( Precision Type unit):			
a.	Below ½ Hp			
b.	1/2 - 1 Hp			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
c.	2 - 3 Hp			
<b>RAC, SPLIT UNIT &amp; EXHAUST FAN</b>				
52.	Capacitor running/starter 370-440VAC, 50Hz any brand:			
a.	2 – 5 MFD			
b.	6 – 15 MFD			
c.	16 – 35 MFD			
d.	36 – 60 MFD			
f.	Compressor motor protection relay			
53.	RAC starter 220/440 coil single or three phase c/w overhead:			
a.	Suitable for ¾ - 1½ hp (4 – 10 Amp)			
b.	Suitable for 2 - 1½ hp (11 – 25 Amp)			
53a	Filter Drier			
aa.	Filter drier sporlan ¼" - ½"			
ab.	Filter drier sporlan 5/8" - 7/8"			
54.	To pullout and service Air curtain (any type / size)			
55.	To supply and deliver Air curtains any makes:			
a.	Air flow 2" x throw			
b.	Air flow 3" x throw			
c.	Air flow 4" x throw			
56.	To service glass/wall mounted exhaust fan:			
a.	6 – 12"			
57.	To service Ceiling mounted exhaust fan:			
a.	6 – 12"			
58.	To service Industrial / Barrel type exhaust fan:			
a.	6 – 12"			
b.	15 – 24"			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
c.	Above 25"			
59.	Thermal overload relay for fully hermetic compressor for RAC & split unit:			
a.	¾ - 1 Hp			
b.	1½ - 2 Hp			
c.	2½ - 3 Hp			
60.	Change bush to bearing fan motor, FCU, RAC etc			
61.	G.I drain pipe c/w fittings (bends, elbows, traps, tees etc. including welding & brazing)below 1½"			
62.	DOL Starter for RAC unit (Any type / size)			
63.	Compressor terminal clip with wiriness assy:			
a.	MCCB (40 - 80 amps)			
b.	MCCB (100 - 150 amps)			
c.	ELCB (40 - 80 amps)			
d.	ELCB (100 - 150 amps)			
64.	Weather proof isolator switch (any type/size):			
a.	MCB (5- 32 amps)SP			
b.	MCB (10- 32 amps)TP			
65.	Thermostat sensor (any type)			
66.	Pipe Thermistor Sensor (Any type)			
67.	DP Switch (any type / size)			
68.	Plug Top c/w Socket outlet			
69.	Over load relay, for compressor			
70.	Drain Pump for Cassette type unit			
71.	Fan motor bearing			
72.	Filter drier (any type / size)			
73.	Remote control for split unit			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
74.	High pressure switch			
75.	Low pressure switch			
76.	Service valve (any type) size below 1"			
77.	Refrigerant pipe connector coupling			
78.	Front cover			
79.	Flexible hose (conduit ) up to 25mm dia			
80.	Remote to wire type including necessary parts			
81.	Control Transformer for Split unit			
82.	Plug top MK or approved equivalent (to supply only):			
a.	13 amps			
b.	15 amps			
83.	3-core flexible cable suitable for the following rating:			
a.	15 amps			
b.	20 amps			
c.	30 amps			
84.	Refrigerant piping for split unit c/w Aeroflex insulation and Denso tape:			
a.	Below 1"			
b.	Above 1			
85.	Replace refrigerant piping insulation using Armaflex for split unit:			
a.	Below 1"			
b.	Above 1"			
86.	Metal trunking:			
a.	2" x 2" x 6"			
b.	2" x 3" x 6"			
c.	2" x 4" x 6"			
87.	PVC trunking:			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
a.	2" x 2" x 6"			
b.	2" x 3" x 6"			
c.	2" x 4" x 6"			
88.	Flare nuts any size for split unit and RAC			
89.	Flare union any size for split unit and RAC			
90.	Flare tee any size for split unit and RAC			
91.	To fabricate, supply & install Drip tray for RAC			
92.	Banking off an opening using ½ thick painted plywood, properly fixed to cover the opening fully			
93.	To construct an opening where it should be rigid and correctly size at a location as requested by the designated officer of the department. The type of walls are as follows:			
a.	On timber/wooden wall			
b.	Within louvers/NACO window frame			
c.	On brick or concrete wall less than 6" thick			
d.	On brick or concrete wall 6 to 12" thick			
e.	On fixed glass window frame or on window with frame			
94.	Fully hermetic compressor for RAC any make c/w filter drier valve, motor protector, crankcase heater, capacitor + 9 months warranty including testing & commissioning:			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
95.	Fully hermetic compressor (non inverter) for split unit any make c/w service valve, motor protector, crankcase heater, capacitor + 9 months warranty including testing & commissioning:			
a.	8,000 Btu/hr – 12,000 Btu/Hr			
b.	12,500 Btu/hr – 16,000 Btu/Hr			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
c.	16,500 Btu/hr – 24,000 Btu/Hr			
d.	24,500 Btu/hr – 30,000 Btu/Hr			
e.	30,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
96.	Fully hermetic compressor (Inverter Type) for split unit any make c/w service valve, motor protector, crankcase heater, capacitor + 9 months warranty including testing & commissioning:			
a.	8,000 Btu/hr – 12,000 Btu/Hr			
b.	12,500 Btu/hr – 16,000 Btu/Hr			
c.	16,500 Btu/hr – 24,000 Btu/Hr			
d.	24,500 Btu/hr – 30,000 Btu/Hr			
e.	30,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr	-----	± \$3	
97.	Fan blade for condenser, split unit any make:			
a.	8,000 Btu/hr – 12,000 Btu/Hr			
b.	12,500 Btu/hr – 16,000 Btu/Hr			
c.	16,500 Btu/hr – 24,000 Btu/Hr			
d.	24,500 Btu/hr – 30,000 Btu/Hr			
e.	30,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
g.	48,500 Btu/hr – 60,000 Btu/Hr			
h.	65,500 Btu/hr – 72,000 Btu/Hr			
98.	Micro-computer control for split unit any make			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
99.	Electrical printed circuit boards for (FCU) non Inverter type split unit any make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
100.	Electrical printed circuit boards for (FCU) Inverter type split unit any make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
101.	Electrical printed circuit boards for (CU) non inverter type split unit any make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
102.	Electrical printed circuit boards for (CU) inverter type split unit any make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
TOTAL C/F				



ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
103.	FCU fan scroll for split unit any make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
104.	New condenser fan motor for split unit any type/make:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
105.	New fan motor for RAC any make:			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
106.	New evaporator fan motor for split unit any make/type:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
107.	To rewind fan motor for split unit any make c/w bearings:			
a.	8,000 Btu/hr – 13,000 Btu/Hr			
b.	13,500 Btu/hr – 18,000 Btu/Hr			
c.	18,500 Btu/hr – 28,000 Btu/Hr			
d.	28,500 Btu/hr – 38,000 Btu/Hr			
e.	38,500 Btu/hr – 48,000 Btu/Hr			
108.	To rewind fan motor for RAC any make c/w bearings:			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
109.	Removal of existing split unit & deliver to Hospital store:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
110.	Removal of existing RAC unit & deliver to Hospital store:			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
111.	Re-installation of used split unit from store or another location within PPMPHAMB Hospital c/w materials required:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
e.	28,500 Btu/hr – 38,000 Btu/Hr			
f.	38,500 Btu/hr – 48,000 Btu/Hr			
112.	Re-installation of used RAC from store or another location within PPMPHAMB Hospital c/w materials required			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
113.	Materials for repairing leaks(Split unit), to provide all the required materials to repair any leaks, install new compressor or overhaul to working order as instructed by the designated officer. Labour charge are not chargeable			
114.	Materials for repairing leaks(RAC unit), to provide all the required materials to repair any leaks, install new compressor or overhaul to working order as instructed by the designated officer. Labour charge are not chargeable			
115.	To supply and install metal support brackets for RAC and split type air conditioning where the brackets shall be rigidly fixed and painted to match the external wall of the building (for ducting & condensing unit various size)			
116.	To install drip tray for newly installed RAC units c/w associated materials and workmanship. Where possible the PVC pipe shall be fixed with saddles and where PVC pipes crosses the walkway etc..... it should be installed flushed to the walkway.			
			TOTAL C/F	

<b>ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.</b>				
<b>Ref. No.</b>	<b>PARTS DESCRIPTION (As described below or approval equivalent)</b>	<b>RATE PARTS ONLY</b>	<b>RATE LABOUR TO INSTALL</b>	<b>NETT PRICE TO SUPPLY &amp; INSTALL</b>
117.	To replace a compressor with another working compressor salvaged from a written-off unit, including all necessary related works. The works shall also include testing of the unit repainting of the unit using two coats of red lead oxide paint and a final coat to match the original colour. The price should only be chargeable as labour charge.			
118.	Supply and installation of new RAC units on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	7,000 Btu/hr – 11,000 Btu/Hr			
b.	12,000 Btu/hr – 17,000 Btu/Hr			
c.	18,000 Btu/hr – 24,000 Btu/Hr			
119.	To supply & install external security grills for RAC c/w accessories etc.			
120.	Supply and installation of new wall mounted split (Non Inverter)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
121.	Supply and installation of new wall mounted split (Inverter Type)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
<b>TOTAL C/F</b>				

<b>ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.</b>				
<b>Ref. No.</b>	<b>PARTS DESCRIPTION (As described below or approval equivalent)</b>	<b>RATE PARTS ONLY</b>	<b>RATE LABOUR TO INSTALL</b>	<b>NETT PRICE TO SUPPLY &amp; INSTALL</b>
a.	8,000 Btu/hr – 10,000 Btu/Hr			
b.	10,500 Btu/hr – 13,000 Btu/Hr			
c.	13,500 Btu/hr – 18,000 Btu/Hr			
d.	18,500 Btu/hr – 28,000 Btu/Hr			
234.	Supply and installation of new Floor mounted split (Non Inverter) units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	18,500 Btu/hr – 28,000 Btu/Hr			
b.	28,500 Btu/hr – 38,000 Btu/Hr			
122.	Supply and installation of new Floor mounted split (Inverter Type)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	18,500 Btu/hr – 28,000 Btu/Hr			
b.	28,500 Btu/hr – 38,000 Btu/Hr			
c.	38,500 Btu/hr – 48,000 Btu/Hr			
123.	Supply and installation of new Ceiling Suspended split (Non Inverter)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor			
a.	13,500 Btu/hr – 18,000 Btu/Hr			
b.	18,500 Btu/hr – 28,000 Btu/Hr			
<b>TOTAL C/F</b>				

<b>ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.</b>				
<b>Ref. No.</b>	<b>PARTS DESCRIPTION (As described below or approval equivalent)</b>	<b>RATE PARTS ONLY</b>	<b>RATE LABOUR TO INSTALL</b>	<b>NETT PRICE TO SUPPLY &amp; INSTALL</b>
c.	28,500 Btu/hr – 38,000 Btu/Hr			
d.	38,500 Btu/hr – 48,000 Btu/Hr			
124.	Supply and installation of new Ceiling Suspended split (Inverter Type)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	13,500 Btu/hr – 18,000 Btu/Hr			
b.	18,500 Btu/hr – 28,000 Btu/Hr			
c.	28,500 Btu/hr – 38,000 Btu/Hr			
d.	38,500 Btu/hr – 48,000 Btu/Hr			
125.	Supply and installation of new Cassette Type split (Non Inverter)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	13,500 Btu/hr – 18,000 Btu/Hr			
b.	18,500 Btu/hr – 28,000 Btu/Hr			
c.	28,500 Btu/hr – 38,000 Btu/Hr			
d.	38,500 Btu/hr – 48,000 Btu/Hr			
126.	Supply and installation of new Cassette Type Split (Inverter)units A/C with varied capacity and size on to a location as requested by designated officer of the department, where the wall are either already available or done by others. The prices should includes all materials such as wiring, starter, plug top etc and works related, testing/commissioning and 1 years warranty for compressor:			
a.	13,500 Btu/hr – 18,000 Btu/Hr			
<b>TOTAL C/F</b>				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
b.	18,500 Btu/hr – 28,000 Btu/Hr			
c.	28,500 Btu/hr – 38,000 Btu/Hr			
d.	38,500 Btu/hr – 48,000 Btu/Hr			
127.	Thermostat for refrigerator/Freezer any type			
128.	Defrost timer for refrigerator/freezer any type			
129.	Filter Drier for refrigerator/freezer any type or size			
130.	Defrost heater for refrigerator			
131.	Door gasket for refrigerator/freezer			
132.	Compressor 110V			
133.	Timer for ice maker			
134.	Timer for non frost refrigerator			
135.	To supply and install Rotary Hermetic Compressor for Non frost Domestic Refrigerator any type , any refrigerant gas and capacity c/w necessary materials such as Filter drier, charging port etc and recharge refrigerant to fully running capacity, including testing/commissioning and 9 months compressor warranty:			
a.	75 watts – 100 watts			
b.	110 watts – 150 watts			
c.	160 watts – 200 watts			
d.	210 watts – 250 watts			
136.	To supply and install Reciprocating Hermetic Compressor for Non frost Domestic Refrigerator any type, any refrigerant gas and capacity c/w necessary materials such as Filter drier, charging port etc and recharge refrigerant to fully running capacity, including testing/commissioning and 9 months compressor warranty:			
a.	75 watts – 100 watts			
b.	110 watts – 150 watts			
c.	160 watts – 200 watts			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
d.	210 watts – 250 watts			
137.	To supply and install Reciprocating Hermetic Compressor for commercial Refrigerator ie Drug Fridge(any refrigerant gas) any type and capacity c/w necessary materials such as Filter drier, charging port etc and recharge refrigerant to fully running capacity, including testing/commissioning and 9 months compressor warranty:			
a.	75 watts – 100 watts			
b.	110 watts – 150 watts			
c.	160 watts – 200 watts			
d.	210 watts – 250 watts			
138.	To repair commercial Refrigerator ie. Drug Fridge (any refrigerant gas) any type and capacity c/w necessary materials such as Filter drier, changing port etc. and recharge refrigerant to fully running capacity, including testing/commissioning without changing compressor			
139.	To supply and install condenser fan motor for commercial Refrigerator IE. Drug Fridge (any refrigerant gas) any type and capacity, including testing/ commissioning			
140.	To supply and install door gasket for commercial Refrigerator IE. Drug Fridge (any refrigerant gas) any type and capacity, including testing/ commissioning			
141.	To repair domestic Refrigerator IE. Drug Fridge (any refrigerant gas) any type and capacity c/w necessary materials such as Filter drier, charging port etc and recharge refrigerant to fully running capacity, including testing/ commissioning without changing the compressor			
142.	To supply and deliver non frost domestic refrigerator (any refrigerant gas) to any location within Brunei Muara under Ministry of Health and 9 months comprehensive warranty and 5 years compressor warranty:			
a.	Up to 100 liters			
b.	10 liters – 150 liters			
c.	15 liters – 200 liters			
TOTAL C/F				



ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
d.	20 liters – 250 liters			
e.	25 liters – 300 liters			
143.	To supply and install <b>Meranti Timber (sawn)</b> :			
a.	1" x 2" x 12"			
b.	2" x 2" x 12"			
c.	2" x 4" x 12"			
144.	To supply & install plywood:			
a.	3/6" x 4' x 8'			
b.	1/4" x 4' x 8'			
c.	1/2" x 4' x 8'			
145.	To supply silicone			
146.	To supply and deliver non frost domestic refrigerator (any refrigerant gas) to any location within Brunei Muara under Ministry of Health and 9 months comprehensive warranty and 5 years compressor warranty:			
a.	Up to 100 liters			
b.	110 liters – 150 liters			
c.	151 liters – 200 liters			
d.	201 liters – 250 liters			
e.	251 liters – 300 liters			
f.	301 liters – 350 liters			
147.	To supply and deliver commercial refrigerator IE. Drug Fridge (any refrigerant gas) to any location within Brunei Muara under Ministry of Health and 9 months comprehensive warranty and 5 years compressor warranty:			
a.	Up to 100 liters			
b.	110 liters – 150 liters			
c.	151 liters – 200 liters			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
d.	201 liters – 250 liters			
e.	251 liters – 300 liters			
f.	301 liters – 350 liters			
148.	To supply and install door gasket for commercial Refrigerator IE. Drug Fridge (R12/134a) any type and capacity, including testing/ commissioning			
149.	Evaporate fan motor c/w blade			
150.	Condenser fan motor c/w blade for commercial fridge			
151.	Heater for non frost refrigerator any type/capacity			
152.	Thermistor for non frost refrigerator			
153.	Overload protection relay for refrigerator			
154.	Door bushing/hinges for non frost refrigeration/ commercial fridge			
155.	Filter drier for refrigerator			
156.	Capillary Tube refrigerator			
157.	To supply & install exhaust fan c/w making opening either through glass or concrete, mounting plate, bracket as required and to provide power supply c/w on/off switch from nearest the DB			
a.	6"			
b.	8"			
c.	10"			
158.	To supply & install Ceiling exhaust fan c/w making opening, mounting plate, bracket as required and to provide power supply c/w on/off switch from nearest the DB			
a.	6"			
b.	8"			
c.	10"			
159.	To supply & install Industrial Type exhaust fan c/w making opening either through concrete or roof, mounting plate, bracket as required and to provide power supply c/w on/off switch from nearest the DB			
TOTAL C/F				

ALL PRICES ARE FOR SINGLE UNIT – 1 No, OR 1 M, OR 1 M2 etc.				
Ref. No.	PARTS DESCRIPTION (As described below or approval equivalent)	RATE PARTS ONLY	RATE LABOUR TO INSTALL	NETT PRICE TO SUPPLY & INSTALL
a.	Up to 10"			
b.	12" - 14"			
c.	15" - 20"			
d.	Above 20"			
160.	To supply & install Barrel (Centrifugal) type exhaust fan c/w , mounting plate, bracket as required and to provide power supply c/w on/off switch from nearest the DB			
a.	Up to 10"			
b.	12" - 14"			
c.	15" - 20"			
d.	20" - 30"			
e.	Above 35"			
161.	To supply and deliver sling psychrometer			
162.	Thermostat including Sensor (any type/size/brand)			
163.	Compressor terminal clip with wiriness assembly			
164.	Blanking off an opening (complete with painting as approved by OIC) using:			
a.	Plywood/Cement board			
b.	Plastering: brick: cement			
165.	To Service glass / wall mounted exhaust fan (any type or size)			
166.	Indicator LED light (any colour/ type/ size) for control panel			
167.	Amp meter 0-120A			
168.	Voltmeter 0-500V			
169.	Heater Switch (15Amps)			
170.	MCB (40 Amps)			
171.	Overload Protector (9-13 Amps)			
TOTAL PRICE (B\$)				

**SCHEDULE A – TENDER FORM**

To:

**TENDER REFERENCE NO: KK/229/2024/ESTETMOH(TC)**

**INVITATION TO TENDER  
COMPREHENSIVE MAINTENANCE SERVICES FOR REFRIGERANT AIR-CONDITIONING AND  
VENTILATION UNDER PENGIRAN ISTERI HAJAH MARIAM (PIHM) HOSPITAL TEMBURONG  
FOR A PERIOD OF THREE (3) YEARS**

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**TENDER OF (*name of tenderer*)**

Company/Business Registration No.: \_\_\_\_\_

Tender Closing Date: \_\_\_\_\_

DESCRIPTION	LOCATION	PRICE (B\$)
Total Annual Plan Preventive Maintenance Service Charge plus Unlimited Breakdown Calls	PIHM Hospital, Pejabat Kesihatan, Pos Kawalan Labu and Clinics within Temburong.	
GRAND TOTAL FOR ONE (1) YEARS		
GRAND TOTAL FOR THREE (3) YEARS		

Appendix A (apply where necessary within the contract)

1.0	<p>Completion Date:</p> <p>(If not stated, to be instructed by the Superintending Officer. If more than one completion period, identify the scope of Works for each completion period).</p> <p>For Term Contract, the Contract shall end when the following conditions are met:</p> <p>a) The actual expiration of the Contract Period; or</p> <p>b) The limit of the Approximate Maximum Total Value of All Job Orders have been reached;</p>	<p>_____ /</p>
2.0	<p>Liquidated and Ascertained Damages (LAD):</p> <p>(If none stated, then the Superintending Officer may certify a reasonable sum as compensation for delay).</p>	<p>B\$ _____ - _____ per day</p>
3.0	<p>Shortfalls / Defects Liability Period: (valid for Corrective Maintenance)</p> <p>(If none stated, SIX (6) MONTHS from the date of completion).</p>	<p>_____ Months</p>
4.0	<p>Retention Sum: (Valid for Corrective Maintenance work above \$2000.00)</p> <p>(If none stated, FIVE (5%) PERCENT of the Contract Sum).</p>	<p>_____ 5 % of the Contract Sum</p>
5.0	<p>Minimum and Maximum Values of Job Orders: (valid for Provision Preventative Maintenance)</p> <p>Minimum value of any one Job Order to be issued</p> <p>Maximum value of any one Job Order to be issued</p> <p>(If none stated, the maximum value to be issued must be capable of being carried out and completed within the Contract Period).</p>	<p>≤ B\$ _____</p> <p>≥ B\$ _____</p>

1. We offer and undertake on your acceptance of our Tender to provide the above mentioned services in accordance with your Invitation To Tender.
2. Our Tender is fully consistent with and does not contradict or derogate from anything in your Invitation To Tender. We have not qualified or changed any of the provisions of your Invitation To Tender.
3. We shall execute a formal agreement in the appropriate form set out in Section 4 – Contract of the Invitation to Tender together with such further terms and conditions, if any, agreed between the Government and us.
4. OUR OFFER IS VALID FOR **SIX (6)** CALENDER MONTHS FROM THE TENDER CLOSING DATE.
5. When requested by you, we shall extend the validity of this offer.
6. We further undertake to give you any further information which you may require.

Dated this                      day of                      2024.

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**Signature of authorised officer of Tenderer**

Name:

Designation:

Tenderer's official stamp:

## SCHEDULE B – INFORMATION SUMMARY

2.1 Tenderers shall provide in this Schedule the following information:

- a. Management summary
- b. Company profile (including Contractor and sub-contractor(s), if any)
- c. Years of experience (as of the Tender Closing Date) of the Contractor and sub-contractor(s) in the:
  - *Related works in the Provision of maintenance services for refrigerated air-conditioning and ventilation.*
- d. Other information which is considered relevant

**SCHEDULE C – SUB-CONTRACTS**

- 3.1 Tenderers shall complete Table 3.1 with information about all the companies involved in the provision of the services and items specified in this tender. This shall include details about the Contractor and each sub-contractor involved, as well as their respective responsibilities.
- 3.2 Tenderers shall also indicate in Table 3.1 any alliance relationship established with each sub-contractor. An alliance is defined as a formal and binding business relationship between the allied parties.

Table 3.1 Responsibility Table

Company Name	Responsibility Description	Alliance Relationship between Contractor and Sub-contractor(s)		
		Alliance Exists? (Y/N)	Date Established	Alliance Description
<b>Contractor</b>				
		Not Applicable	Not Applicable	Not Applicable
<b>Sub-contractor(s)</b>				



## **SCHEDULE D – COMPANY’S BACKGROUND**

- 4.1 Each of the companies involved in this tender, including Contractor and sub-contractor(s) (if any), shall provide information on the company’s background, scope of operations, financial standing and certified copy of its Certificate of Incorporation or Certificate of Registration (as the case may be).

## SCHEDULE E – REFERENCES

5.1 Tenderers shall submit a list of customers in Table 5.1 to whom the Contractor has provided similar services and items as specified in this tender in the recent 5 years as of the Tender Closing Date.

Table 5.1      References of previous customers

Customer Name and Address	Customer Type (Govt or Quasi Govt)*	Contact Person	Title	Contact Number, Fax Number and E-mail Address

**\*Note: Tenderers shall indicate whether the customer is a Government or Quasi Government organisation. A Quasi Government is defined as an organisation which (1) is managed and controlled by the Government; or (2) has at least 50% shares being held by the Government. Please leave the column blank if the customer is neither a Government or Quasi Government organisation.**

5.2 The Ministry of Health shall treat all the information submitted under this schedule in strict confidence.

5.3 The Ministry of Health reserves the right to contact the references for tender assessment purposes.

**SCHEDULE F – DECLARATION**

**PENGAKUAN PENENDER  
*TENDERER'S DECLARATION***