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	CLIENT:	BÚZIOS	SHEET: 1 of 18	
	JOB:	REFERENCE BASIC DESIGN	1001056398 0010	
	AREA:	BÚZIOS		
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1 INTRODUCTION

The objective of this specification is to describe the main characteristics of the Reference Basic Design topside HVAC (Heating, Ventilation and Air Conditioning) systems. HVAC systems shall be provided for M-01 – I/O Remote Panels Room, M-14 Laboratory and for M-17 - Automation and Electrical, M-13 – Electrical Equipment Rooms.

Design, fabrication, inspection, testing, delivery and commissioning shall be in accordance with the requirements of I-ET-3010.1M-5250-300-P4X-001– HVAC SYSTEM DESIGN.

Detailed Design is responsible to confirm all parameters, such as airflow, capacity, power consumption, duct and equipment size, duct routing, etc. No extra cost shall be transferred to Petrobras.

2 REFERENCE DOCUMENTS

I-DE-3010.1M-5250-944-P4X-001	HVAC SYSTEM - TYPICAL SCHEMES FOR TOPSIDE
I-DE-3010.1M-5250-944-P4X-003	HVAC SYSTEM - M-17
I-DE-3010.1M-5250-944-P4X-004	HVAC SYSTEM - LABORATORY
I-DE-3010.1M-5250-944-P4X-005	HVAC SYSTEM - M-13 - ELECTRICAL EQUIPMENT ROOMS
I-DE-3010.1M-5250-944-P4X-020	HVAC SYSTEM - REMOTE I/O PANELS ROOM - M-01
I-DE-3010.1M-5252-944-P4X-003	CHILLED WATER DISTRIBUTION - TOPSIDE
I-DE-3010.1M-5400-94A-P4X-001	AREA CLASSIFICATION - GENERAL
I-ET-3010.00-1200-800-P4X-002	AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS
I-ET-3010.00-1350-940-P4X-001	SYSTEMS OPERATION PHYLOSOPHY
I-ET-3010.1M-1200-800-P4X-01	AUTOMATION INTERFACE OF PACKAGE UNITS
I-ET-3010.1M-5250-300-P4X-001	HVAC SYSTEM DESIGN

3 M-01 – REMOTE I/O PANELS ROOM


3.1 VENTILATION SYSTEM

Two independent ventilation systems shall be supplied: one for air-supply and another for room exhaustion.

All equipment, air intakes and exhausts shall be located at safe area.

Penetration shall be made preferably through the roof, shall avoid “H” classified area on roof and shall be minimized for “A” classified bulkheads.

Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

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Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

3.1.1 VT-5254006A/B

Type CENTRIFUGAL
Configuration 2 x 100%
Description REMOTE PANELS ROOM SUPPLY FAN
Located at M-01 REMOTE I/O PANELS ROOM ROOF
Consists of Drop eliminator section
 Filter Section (fine and coarse)

3.1.2 EXT-5255009A/B

Type CENTRIFUGAL
Configuration 2 x 100%
Description REMOTE PANELS ROOM EXHAUST FAN
Located at M-01 REMOTE I/O PANELS ROOM ROOF

4 LABORATORY

4.1 AIR CONDITIONING SYSTEM

Two fancoil independent systems shall be supplied for Laboratory Rooms.


Main system (AC-5252003A/B) shall be responsible for keeping temperature and humidity inside Laboratory Equipment Room according to design parameters and supply the airflow for bonnets and hoods too. Outside airflow for Laboratory Office Room shall also be supplied by main system. This unit operates with 100% air renewal (no recirculation allowed) and only when main generation is on.

A second fancoil cassette type set (AC-5252007) shall be installed in Laboratory Office Room for keeping inside design parameters.

Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

A dehumidification section, a central electric heating section and the respective controls shall be included in the AC-5252003A/B to set Relative Humidity.

Positive pressure shall be monitored in Laboratory office for a minimum of 50 Pa in relation to Laboratory equipment area. Positive pressure shall be monitored in Laboratory equipment area for a minimum of 50 Pa in relation to outside area (when

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all doors are closed). Loss of these differential pressures shall be alarmed at SOS HMIS.

All equipment shall be located at safe area, on laboratory roof. Penetration shall preferably be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION - GENERAL.

4.1.1 AC-5252003A/B

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	2 x 100%
Description	LABORATORY EQUIPMENT AC UNIT
Located at	LABORATORY ROOF
	Drop eliminator section
	Filter Section (fine and coarse)
Consists of	Cooling section coils (CW) with droplet separator and condensate drain
	Dehumidification section with a central electric heater, and the respective controls
	Fan Section


4.1.2 AC-5252007

Type	FAN-COIL CASSETTE TYPE
Configuration	1 x 100%
Description	LABORATORY OFFICE ROOM AC UNIT
Located at	LABORATORY OFFICE ROOM CEILING
Consists of	Cooling Section dx coils with droplet separator and condensate drain

4.2 VENTILATION SYSTEMS

The laboratory bonnets and hoods shall have their own exhaust air systems. In this phase of the project, these fans were included in the HVAC package. In the next phases, they may be included as part of laboratory equipment package if this is more appropriate for purchase.

For bonnets and hoods, supply airflow shall be dimensioned for 100% of exhaust airflow and shall come from air conditioning system. The Air Balance (Supply and Exhaust Airflow) shall be considered according to I-DE-3010.1M-5250-944-P4X-004 - HVAC SYSTEM - LABORATORY.

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To comply with bonnets and hoods operation, control of fans and exhausts airflows shall be done using VSDs.

All exhaust fans shall have a stand-by, exception to EXT-5255004 (for articulated hood).

Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

All equipment, air intakes and exhausts shall be located at safe area, on laboratory roof. Penetration shall be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

4.2.1 EXT-5255003A/B


Type	CENTRIFUGAL
Configuration	2 x 100%
Description	FIXED HOOD EXHAUST FAN
Located at	LABORATORY ROOF

4.2.2 EXT-5255004

Type	CENTRIFUGAL
Configuration	1 x 100%
Description	ARTICULATED HOOD EXHAUST FAN
Located at	LABORATORY ROOF

4.2.3 EXT-5255005A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	ORGANIC BONNET EXHAUST FAN
Located at	LABORATORY ROOF

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4.2.4 EXT-5255006A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	INORGANIC BONNET EXHAUST FAN
Located at	LABORATORY ROOF

5 ELECTRICAL EQUIPMENT ROOMS (M-13)

Several ambient compose power Generation Module, some ventilated, some conditioned:

- HVAC machinery room
- Generators Batteries Room A
- Generators Batteries Room B
- Generators Power Panels Room
- Generators Control Panels Room

5.1 GENERATORS BATTERIES ROOM (A AND B)

5.1.1 Ventilation Systems

Each room shall have a set of two exhaust fans, one in operation, the other stand-by.

These fans shall be installed in an open safe area on the module M-13 covering. Exhaust grilles shall be located at higher point of room and the air intake shall be located in opposite side of the room at floor level.

Centrifugal fans shall be used. The fans shall obey the requirements of I-ET-3010.1M-5250-300-P4X-001 – HVAC SYSTEM DESIGN.


Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

In a case of main generation shutdown the units remain in operation (fed by emergency generator).

Electrical equipment shall take into account the hydrogen risk generated into the space "GROUP II C - ZONE 2, T1".

Pressure in Battery room shall be monitored for a minimum 50 Pa Negative in relation to adjacent areas and loss of differential pressure shall be alarmed at A&C System HMI.

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Battery charger shall inhibit the charging of batteries if the ventilation system of the room fails.

All equipment, air intakes and exhausts shall be located at safe area, on room roof. Penetration shall be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

5.1.2 EXT-5255007A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	GENERATORS BATTERIES ROOM A EXHAUST FAN
Located at	M-13 – COVERING

5.1.3 EXT-5255008A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	GENERATORS BATTERIES ROOM B EXHAUST FAN
Located at	M-13 – COVERING

5.2 GENERATORS POWER PANELS ROOM

5.2.1 Air conditioning Systems


One fancoil independent system shall be supplied. Unit operates only when main generation is on.

A single duct low velocity system shall be applied.

All equipment shall be located at safe area, on laboratory roof. Penetration shall preferably be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION - GENERAL.

Room shall be positively pressurized by imbalance of design airflow (without monitoring). Pressure-relief dampers shall be installed on bulkhead to guarantee pressurization and air renewal. Additionally, pressurized air locks shall be provided.

Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package

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classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

5.2.2 AC-5252005A/B

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	2 x 100%
Description	GENERATORS POWER PANELS ROOM AC UNIT
Located at	M-13 GENERATORS HVAC ROOM
Consists of	Mixing section Filter Section (fine and coarse) Cooling section coils (CW) with droplet separator and condensate drain Fan Section

5.3 GENERATORS CONTROL PANELS ROOM

5.3.1 Air conditioning Systems


One fancoil independent system shall be supplied. This system shall supply air conditioning for Generators Control Panels Room. In case of main generation shutdown, the unit remains in operation (fed by emergency generator) but only with the ventilation section.

A single duct low velocity system shall be applied.

All equipment shall be located at safe area, on laboratory roof. Penetration shall preferably be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION - GENERAL.

The room shall be positively pressurized and loss of differential pressure shall be alarmed at SOS HMIS. Pressure-relief dampers shall be installed on the room bulkhead to guarantee pressurization and air renewal. Additionally, pressurized air locks shall be provided for the rooms.

Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

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5.3.2 AC-5252004A/B

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	2 x 100%
Description	GENERATORS CONTROL PANELS ROOM AC UNIT
Located at	M-13 GENERATORS HVAC ROOM Mixing section
Consists of	Filter Section (fine and coarse) Cooling section coils (CW) with droplet separator and condensate drain Fan Section

5.4 GENERATORS HVAC ROOM

There is no specific fans for this room. Ventilation and outside air requirement shall be done through a branch of AC-5252004 insufflation as shown in I-DE-3010.1M-5250-944-P4X-005 - HVAC SYSTEM - M-13 - ELECTRICAL EQUIPMENT ROOMS.

6 AUTOMATION AND ELECTRICAL PANELS ROOMS MODULE (M-17)

Several ambient compose AEPR module, some ventilated, some conditioned:

- HVAC machinery room
- Batteries Room A
- Batteries Room B
- Normal Transformers Room
- Automation and Electrical Panel Room
- Normal Panels Room 1
- Normal Panels Room 2


6.1 BATTERIES ROOM (A AND B)

6.1.1 Ventilation Systems

Each room shall have a set of two exhaust fans, one in operation, the other stand-by.

These fans shall be installed in an open safe area on the module M-17 covering. Exhaust grilles shall be located at higher point of room and the air intake shall be located in opposite side of the room at floor level.

Centrifugal fans shall be used. The fans shall obey the requirements of I-ET-3010.1M-5250-300-P4X-001 – HVAC SYSTEM DESIGN.

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Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

In a case of main generation shutdown the units remain in operation (fed by emergency generator). Electrical equipment shall take into account the hydrogen risk generated into the space "GROUP II C - ZONE 2, T1".

Pressure in Battery room shall be monitored for a minimum 50 Pa Negative in relation to adjacent areas and loss of differential pressure shall be alarmed at A&C System HMI.

Battery charger shall inhibit the charging of batteries if the ventilation system of the room fails.

All equipment, air intakes and exhausts shall be located at safe area, on room roof. Penetration shall be made through the roof but shall avoid "H" classified area on roof and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

6.1.2 EXT-5255001A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	M-17 BATTERIES ROOM A EXHAUST FAN
Located at	M-17 – COVERING


6.1.3 EXT-5255002A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	M-17 BATTERIES ROOM B EXHAUST FAN
Located at	M-17 – COVERING

6.2 NORMAL TRANSFORMERS ROOM

6.2.1 Ventilation Systems

Room shall have two sets of exhaust fans, one supply system and an exhaustion system. Each set shall have a main equipment in operation and a stand-by.

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These fans shall be installed in an open safe area on the module M-17 covering. The supply duct shall run inside the room to floor level. Air exhaustion shall be done by means of pressure-relief dampers installed on bulkheads, as close as possible to the upper part on the room.

The air ducts distribution shall be revised during detail design (with more accurate heat load and size data) in order to maximize the insufflation near floor level. Without any extra cost to Petrobras.

Centrifugal fans shall be used. The fans shall obey the requirements of I-ET-3010.1M-5250-300-P4X-001 – HVAC SYSTEM DESIGN.

Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

All equipment, air intakes and exhausts shall be located at safe area, on room roof. Penetration shall be made through the roof but shall avoid “H” classified area on roof and shall be minimized for “A” classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

6.2.2 VT-5254001A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	M-17 NORMAL TRANSFORMER ROOM SUPPLY FAN
Located at	M-17 – COVERING


6.2.3 EXT-5255010A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	M-17 NORMAL TRANSFORMER ROOM EXHAUST FAN
Located at	M-17 – COVERING

6.3 AUTOMATION AND ELECTRICAL PANELS ROOM

6.3.1 Air conditioning Systems

One fancoil independent system shall be supplied. This system shall supply air conditioning for AEPR. In case of main generation shutdown, the unit remains in operation (fed by emergency generator) but only with the ventilation section.

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A single duct low velocity system shall be applied.

All air intakes and exhausts shall be located at safe area. Penetration shall avoid “H” classified area and shall be minimized for “A” classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

The room shall be positively pressurized and loss of differential pressure shall be alarmed at SOS HMIS. Pressure-relief dampers shall be installed on the room bulkhead to guarantee pressurization and air renewal. Additionally, pressurized air locks shall be provided for the rooms.

Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

6.3.2 AC-5252001A/B

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	2 x 100%
Description	AUTOMATION AND ELECTRICAL PANELS ROOM AC UNIT
Located at	M-17 HVAC ROOM
Consists of	Mixing section Filter section (fine and coarse) Cooling section coils (CW) with droplet separator and condensate drain Fan Section


6.4 NORMAL PANELS ROOM 1

6.4.1 Air conditioning Systems

One set of two fancoils independent system shall be supplied. Unit operates only when main generation is on.

A single duct low velocity system shall be applied.

All air intakes and exhausts shall be located at safe area. Penetration shall avoid “H” classified area and shall be minimized for “A” classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

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Room shall be positively pressurized by imbalance of design airflow (without monitoring). Pressure-relief dampers shall be installed on bulkhead to guarantee pressurization and air renewal. Additionally, pressurized air locks shall be provided.

Heat load from medium-voltage VSD shall be partially extracted directly to return duct (85% of medium-voltage VSDs load). Part of VSD heat dissipation shall return to the room (15% of medium-voltage VSDs load). Detail engineering shall reevaluate this question with more accurate data and, if necessary, shall propose a revision without any extra cost to Petrobras.

Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

6.4.2 AC-5252002A/C

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	3 x 50%
Description	NORMAL PANELS ROOM 1 AC UNIT
Located at	M-17 HVAC ROOM Mixing section Filter Section (fine and coarse)
Consists of	Cooling section coils (CW) with droplet separator and condensate drain Fan Section

6.5 NORMAL PANELS ROOM 2


6.5.1 Air conditioning Systems

One set of two fancoils independent system shall be supplied. Unit operates only when main generation is on.

A single duct low velocity system shall be applied.

All air intakes and exhausts shall be located at safe area. Penetration shall avoid "H" classified area and shall be minimized for "A" classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.

Room shall be positively pressurized by imbalance of design airflow (without monitoring). Pressure-relief dampers shall be installed on bulkhead to guarantee pressurization and air renewal. Additionally, pressurized air locks shall be provided.

	TECHNICAL SPECIFICATION	Nº: I-ET-3010.1M-5250-300-P4X-003	REV. 0
	AREA:	BÚZIOS	
	TITLE:	HVAC SYSTEM DESCRIPTION FOR TOPSIDE	
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Air conditioning units are considered MOP3 operation mode, which means: operation, supervision and local control are made by equipment own IHM at local panel, with remote supervision resumed at SOS IHM. In order to provide a complete integration with the Automation System of the Unit, it shall be followed package classification according to Technical Specification I-ET-3010.1M-1200-800-P4X-014 - AUTOMATION INTERFACE OF PACKAGE UNITS. Package requirements shall be according to I-ET-3010.00-1200-800-P4X-002 - AUTOMATION, CONTROL AND INSTRUMENTATION ON PACKAGE UNITS.

6.5.2 AC-5252006A/B

Type	FAN-COIL MODULAR HORIZONTAL TYPE
Configuration	2 x 100%
Description	NORMAL PANELS ROOM 2 AC UNIT
Located at	M-17 HVAC ROOM
Consists of	Mixing section Filter Section (fine and coarse) Cooling section coils (CW) with droplet separator and condensate drain Fan Section

6.6 M-17 HVAC ROOM

6.6.1 Ventilation Systems

Room shall be provided with one supply ventilation system serving HVAC Room.

Centrifugal fans shall be used. The fans shall be supplied according to specifications of I-ET-3010.1M-5250-300-P4X-001 – HVAC SYSTEM DESIGN.

These fans shall be installed inside the HVAC room.

Fans are considered MOP2 operation mode, which means:

- Remote operation, supervision and control at CCR
- Operation and supervision made by IHM at SOS
- Control and Interlocking made by CSS
- Some acting by demand of operation crew at Control Room (e.g. setpoint change) and by operation crew at local area

All air intakes and exhausts shall be located at safe area. Penetration shall avoid “H” classified area and shall be minimized for “A” classified bulkheads. Air intake shall distance at least 3 meters from the limits of the classified area, according to I-DE-3010.1M-5400-94A-P4X-001 - AREA CLASSIFICATION – GENERAL.



TECHNICAL SPECIFICATION

Nº: I-ET-3010.1M-5250-300-P4X-003

REV. 0

AREA: BÚZIOS

SHEET: 16 of 16

TITLE: HVAC SYSTEM DESCRIPTION FOR TOPSIDE

NP-1

ESUP

6.6.2 VT-5254007A/B

Type	CENTRIFUGAL
Configuration	2 x 100%
Description	M-17 HVAC ROOM SUPPLY FAN
Located at	M-17 – HVAC ROOM

PRELIMINARY