ARCHITECTURE | ENGINEERING | PLANNING
PROJECT MANAGEMENT | COST MANAGEMENT

# SPECIFICATION

## PACKAGE AIR COOL VRF SYSTEM

## PROJECT: LYCEE FRANCAIS DE BANGKOK-GYMNASIUM HVAC

Project No: C-THL-EXT-20-004-B00
Document No: SPE-DD-ME-B0-AC-0301
Revision: 00
Date: September 18, 2020

**Archetype Engineering Consultants Co. Ltd.**
22/F, ITF Tower, 140 Silom Road, Suriyawong,
Bangrak, Bangkok, Thailand 10500

Telephone: +66 2 634 0031
Email: info.bkk@archetype-group.com

| Revision | Prepared by | Reviewed by | Approved by | Effective Date |
|---|---|---|---|---|
| Rev. 00 | Yodchai K. | Pataithep C. | Marian K. | Sep 18, 2020 |
| | | | | |

*This document is the property of Archetype Group.*
*All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission of the publisher.*

| REVISION HISTORY | | |
|---|---|---|
| REV. | **REVISED ISSUE** | **DESCRIPTION** |
| 00 | First Issue | Issued for Tender |
| | | |

**Table of contents**

1 GENERAL 4

2 PRODUCTS 4

3 EXECUTION 5

| Attachments | Revision | Date |
|---|---|---|
| | | |

| Drawings | Revision | Date |
|---|---|---|
| | | |

# 1 GENERAL

### Related Sections

Automatic control and Instrumentation.

### References

| | |
|---|---|
| ARI | Air Conditioning and Refrigeration Institute |
| 2010 ASHRAE | Refrigeration Handbook |
| 2007 ASHRAE | HVAC Application Handbook |
| 2008 ASHRAE | HVAC System and Equipment |
| UL 465 | Central Cooling Air Conditioners. |
| ASHRAE 90A | Installation of Air Conditioning and Ventilation Systems |
| ISO | International Standardization Organization |
| NEC | National Electrical Code |
| TIS | Thailand Industrial Standard |
| EIT | The Engineering Institute of Thailand |

### Submittals for Review

Provide data for manufactured products and assemblies. Indicate water, drain, thermostatic valves, and electrical rough-in connections with electrical characteristics and connection requirements.
Submit manufacturer's installation instructions. Indicate assembly, support details, connection requirements, and include start-up instructions.
Provide warranty to include coverage for refrigeration compressors.

# 2 PRODUCTS

## 2.1 General

Variable refrigerant flow system (VRF) shall be air cooled system which consist of one, fan coil unit or one air handling unit and one or more condensing unit or compressors. The number of refrigerant circuits shall be the same as the condensing units or compressors. The fan coil unit and the condensing unit shall be match unit by manufacturer and should provide inverter type.

## 2.2 Evaporator blower

Unit shall be complete assembled for manufacturer
Cooling coil shall be of copper tube with aluminium fin suitable for R-32 or R-407,or R-410 refrigerant.
Refrigeration circuit with externally equalized thermal expansion valve, filter-drier, and charging valves.
Fan shall be of centrifugal type, the fan shall statically dynamically balance from manufacturer.
Casing shall be steel sheet with paint as standard from manufacturer inside insulation for evaporator shall be of closed cell plastic insulation.
Air filter shall be of aluminium or washable filter and should be protection dust PM 2.5.
Drain pan shall be of galvanized steel with 15-mm thick closed cell plastic insulation.
Remote 3-speed switch with thermostat shall be provided for ceiling type fan coil unit.

## 2.3 Condensing Unit

Unit shall be complete assemble from manufacturer
Condenser coil for air cooled type shall be of copper tube with aluminium fin as s from manufacturer.
Casing shall be of reinforced fiberglass or steel with paint which suitable for outdoor use.
Direct driven propeller fan, statically and dynamically balanced, with permanently lubricated bearings.
Compressor shall be of rotary or hermetically scaled.

## 2.4 Standard Accessories For Condensing Unit

High-Low pressure switch
Timer relay
Refrigerant dryer
Sight glass
Service valve
Refrigerant charging device
The unit is more than 10 tons shall have more than one refrigerant circuit.

# 3 EXECUTION

## 3.1 Installation

Install in accordance with manufacturer's instructions and in positions as indicated on the drawings.