

Project : Legoland Johor Chiller Replacement  
Created By : Nur Athirah Binti Abdullah

## Customer Input

Selected Model / Type : UAM60CFM / Fixed Speed Scroll Chiller Version C  
Ambient Temperature : 34.0 °C Frequency : 50 Hz  
Chilled Water : EWT 12.00 °C Voltage : 380-415 V  
LWT 7.00 °C Country of Origin : Malaysia

## Generated Outputs

| Full Load Performance |                                                                                                                                                                                                                                                                                                                                          | Nominal Data (AHRI Standard) |  | Input Conditions |                   |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--|------------------|-------------------|
| Cooling Capacity      |                                                                                                                                                                                                                                                                                                                                          | 59.27                        |  | 60.18            | TR                |
|                       |                                                                                                                                                                                                                                                                                                                                          | 208.5                        |  | 211.7            | kW                |
| Current               | Compressor                                                                                                                                                                                                                                                                                                                               | 115                          |  | 113              | A                 |
|                       | Fan                                                                                                                                                                                                                                                                                                                                      | 18                           |  | 18               | A                 |
|                       | Total                                                                                                                                                                                                                                                                                                                                    | 133                          |  | 131              | A                 |
| Power Input           | Compressor                                                                                                                                                                                                                                                                                                                               | 67.18                        |  | 65.75            | kW                |
|                       | Fan                                                                                                                                                                                                                                                                                                                                      | 12.00                        |  | 12.00            | kW                |
|                       | Total                                                                                                                                                                                                                                                                                                                                    | 79.18                        |  | 77.75            | kW                |
| COP                   |                                                                                                                                                                                                                                                                                                                                          | 2.633                        |  | 2.722            | kW/kW             |
| Flow Rate             |                                                                                                                                                                                                                                                                                                                                          | 35.90                        |  | 36.45            | m <sup>3</sup> /h |
| Pressure Drop         |                                                                                                                                                                                                                                                                                                                                          | 37.9                         |  | 38.9             | kPa               |
| Note                  | 1. Nominal data is based on the AHRI (551/591) standard condition of EWT/LWT of 12.00/7.00°C, and ambient temperature of 35.0°C.<br>2. Input Condition data is based on customer's input condition of EWT/LWT, and ambient temperature.<br>3. Evaporator rating fouling factor = 0.018 m <sup>2</sup> .K/kW, and rating altitude at 0 m. |                              |  |                  |                   |

## Part Load Performance

|                        |  |       |       |       |       |   |   |   |   |   |    |                   |
|------------------------|--|-------|-------|-------|-------|---|---|---|---|---|----|-------------------|
| IPLV                   |  | 3.850 |       |       |       |   |   |   |   |   |    | kW/kW             |
| Point                  |  | 1     | 2     | 3     | 4     | 5 | 6 | 7 | 8 | 9 | 10 |                   |
| Corresponding Capacity |  | 100.0 | 75.0  | 50.0  | 25.0  | - | - | - | - | - | -  | %                 |
| Total Cooling Capacity |  | 60.18 | 45.14 | 30.09 | 15.05 | - | - | - | - | - | -  | TR                |
| Total Cooling Capacity |  | 211.7 | 158.7 | 105.8 | 52.91 | - | - | - | - | - | -  | kW                |
| Total Power Input      |  | 77.75 | 59.32 | 38.88 | 20.44 | - | - | - | - | - | -  | kW                |
| Total Current          |  | 131   | 100   | 66    | 35    | - | - | - | - | - | -  | A                 |
| COP                    |  | 2.722 | 2.676 | 2.722 | 2.589 | - | - | - | - | - | -  | kW/kW             |
| Ambient Temperature    |  | 34.0  | 34.0  | 34.0  | 34.0  | - | - | - | - | - | -  | °C                |
| EEWT                   |  | 12.00 | 10.75 | 9.50  | 8.25  | - | - | - | - | - | -  | °C                |
| ELWT                   |  | 7.00  | 7.00  | 7.00  | 7.00  | - | - | - | - | - | -  | °C                |
| Flow Rate              |  | 36.45 | 36.45 | 36.45 | 36.45 | - | - | - | - | - | -  | m <sup>3</sup> /h |
| Pressure Drop          |  | 38.9  | 38.9  | 38.9  | 38.9  | - | - | - | - | - | -  | kPa               |

## Others

|                            |            |                    |           |
|----------------------------|------------|--------------------|-----------|
| MCA                        |            | 164                | A         |
| No. of Refrigerant Circuit |            | 2                  | -         |
| Refrigerant Type           |            | R410A              | -         |
| Refrigerant Charge         | System 1/2 | 21.0 / 21.0        | kg/System |
| Chiller Dimension          | W / D / H  | 2237 / 3263 / 2156 | mm        |
| Weight                     | Shipping   | 2052               | kg        |
|                            | Operating  | 2174               | kg        |

## Evaporator

|                       |           |                    |                   |
|-----------------------|-----------|--------------------|-------------------|
| Type                  |           | S&T                | -                 |
| Inlet/Outlet Diameter |           | 4" Victaulic Joint | -                 |
| Flow Rate             | Min / Max | 13.70 / 61.20      | m <sup>3</sup> /h |
| Pressure Drop         | Min / Max | 7.00 / 90.0        | kPa               |

## Compressor

|            |            |                          |          |
|------------|------------|--------------------------|----------|
| Quantity   | System 1/2 | 2 / 2                    | -        |
| Type       |            | Hermetic-sealed (Scroll) | -        |
| Oil Charge | System 1/2 | 13.4 / 13.4              | L/System |

## Condenser

|                     |      |                |                      |
|---------------------|------|----------------|----------------------|
| Coil                |      |                |                      |
| Tube                | Type | Copper Tube    | -                    |
| Fin                 | Type | Aluminium Fin  | -                    |
| Surface Area/ Coil  |      | 11.52          | m <sup>2</sup> /Coil |
| Fan                 |      |                |                      |
| Type/ Drive         |      | Axial / Direct | -                    |
| Quantity per System |      | 3              | -                    |