

**Plant Report**

---

**1. Plant Schedules**

| Reference | Plant/System  | Length (m) | Width (m) | Height (m) | Weight (kg) | Comments                                            |
|-----------|---------------|------------|-----------|------------|-------------|-----------------------------------------------------|
| WAHU 01   | Warehouse AHU | 6          | 2         | 3.0        | 3,000       | Provided heating and ventilation to warehouse space |
| AHU 01    | Office AHU    | 3          | 2.4       | 2          | 1,600       | Provides ventilation to office accommodation        |
| AHU 02    | Office AHU    | 2.2        | 1.2       | 1.3        | 640         | Provides ventilation to Locker/Toilet areas         |
| AHU 03    | Office AHU    | 2.4        | 1.6       | 1.6        | 980         | Provides ventilation to office accommodation        |
| CU 01     | VRV/VRF       | 0.92       | 0.74      | 1.86       | 229         | PURY-P250YNWA                                       |
| CU 02     | VRV/VRF       | 2x1.75     | 0.74      | 1.86       | 674         | PURYP1050YSNW                                       |

## Plant Report

---

### 2. Acoustic Data

Acoustic data include within this report is based on initial plant selections and is subject to design development by the Mechanical Contractor. All final plant and sound attenuation selections shall meet the following requirements

1. Plant noise shall not exceed 5NR above the external ambient level at the Site Boundary.
2. The Mechanical Services Contractor shall ensure the Sound Pressure level of any external plant to be no greater than 60dBA at 10M.

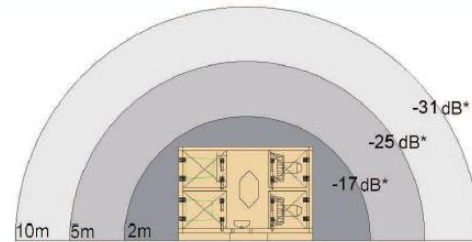
#### 2.1. WAHU 01

| Sound Power Lw  | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz | 8 kHz |
|-----------------|-------|--------|--------|--------|-------|-------|-------|-------|
| Fan Inlet (dB)  | 90    | 91     | 94     | 82     | 80    | 76    | 75    | 69    |
| Fan Outlet (dB) | 96    | 88     | 93     | 91     | 87    | 83    | 83    | 78    |

## Plant Report

### 2.2. AHU 01

#### Acoustic data



sound correction under free field condition

#### Acoustic data supply section

| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 65   | 75    | 75    | 73    | 68   | 64   | 61   | 55   | 74            |
| Outlet sound power                 | (dB) | 75   | 83    | 87    | 90    | 86   | 78   | 73   | 68   | 90            |
| Airborne sound power               | (dB) | 66   | 72    | 78    | 74    | 67   | 64   | 52   | 30   | 75            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 40   | 50    | 50    | 48    | 43   | 39   | 36   | 30   | 49            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 50   | 58    | 62    | 66    | 61   | 53   | 48   | 43   | 66            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 41   | 47    | 53    | 49    | 42   | 39   | 27   | 5    | 50            |

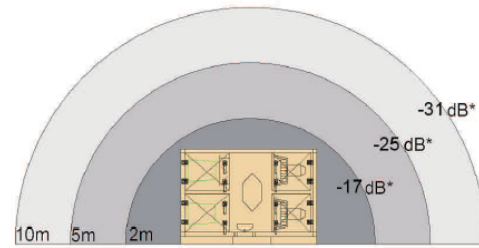
#### Acoustic data exhaust section

| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 66   | 78    | 73    | 72    | 67   | 63   | 60   | 54   | 73            |
| Outlet sound power                 | (dB) | 75   | 87    | 85    | 90    | 86   | 78   | 76   | 71   | 91            |
| Airborne sound power               | (dB) | 65   | 75    | 74    | 73    | 66   | 63   | 51   | 29   | 73            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 41   | 53    | 48    | 47    | 42   | 38   | 35   | 29   | 48            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 50   | 62    | 60    | 65    | 62   | 53   | 51   | 46   | 66            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 40   | 50    | 49    | 48    | 41   | 38   | 26   | 4    | 48            |

## Plant Report

### 2.3. AHU 02

#### Acoustic data



sound correction under free field condition

#### Acoustic data supply section

| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 57   | 61    | 62    | 63    | 57   | 56   | 51   | 45   | 64            |
| Outlet sound power                 | (dB) | 64   | 68    | 72    | 77    | 77   | 72   | 65   | 58   | 80            |
| Airborne sound power               | (dB) | 56   | 57    | 63    | 61    | 58   | 59   | 43   | 20   | 64            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 32   | 36    | 37    | 38    | 32   | 31   | 26   | 20   | 39            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 39   | 44    | 47    | 52    | 52   | 47   | 40   | 33   | 55            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 31   | 32    | 38    | 36    | 33   | 34   | 19   | -5   | 39            |

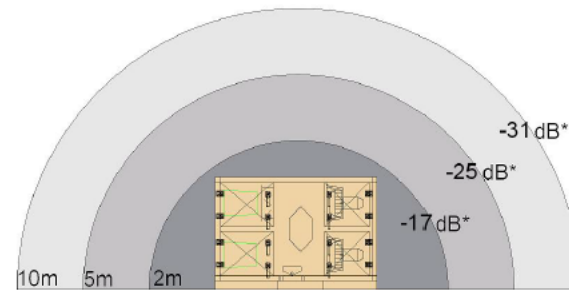
#### Acoustic data exhaust section

| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 55   | 61    | 59    | 62    | 55   | 54   | 49   | 43   | 62            |
| Outlet sound power                 | (dB) | 63   | 69    | 72    | 77    | 77   | 71   | 67   | 60   | 80            |
| Airborne sound power               | (dB) | 54   | 57    | 62    | 60    | 57   | 56   | 41   | 18   | 62            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 30   | 36    | 34    | 37    | 30   | 29   | 24   | 18   | 37            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 38   | 44    | 47    | 52    | 52   | 46   | 42   | 36   | 55            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 29   | 32    | 37    | 35    | 32   | 31   | 16   | -7   | 37            |

## Plant Report

### 2.4. AHU 03

#### Acoustic data



sound correction under free field condition

#### Acoustic data supply section

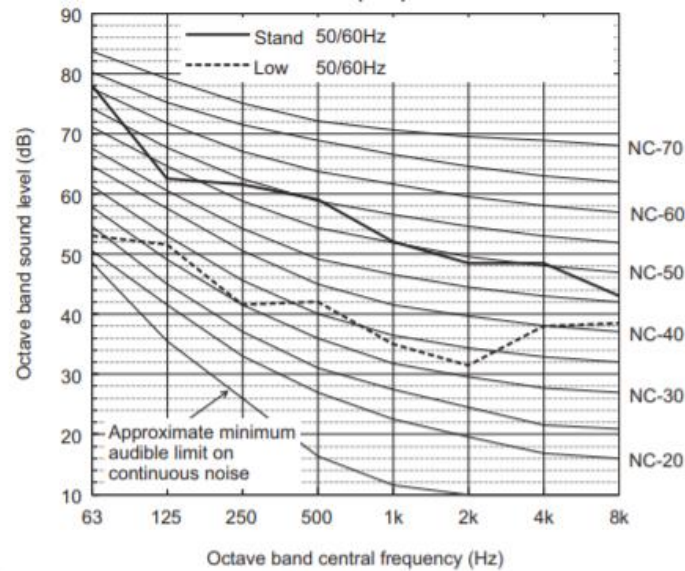
| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 64   | 71    | 68    | 69    | 63   | 61   | 54   | 49   | 70            |
| Outlet sound power                 | (dB) | 73   | 83    | 82    | 86    | 83   | 81   | 75   | 67   | 88            |
| Airborne sound power               | (dB) | 74   | 81    | 85    | 81    | 80   | 81   | 77   | 72   | 87            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 39   | 46    | 43    | 44    | 38   | 36   | 29   | 25   | 45            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 48   | 58    | 57    | 61    | 58   | 56   | 50   | 42   | 63            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 49   | 56    | 60    | 56    | 55   | 56   | 52   | 47   | 62            |

#### Acoustic data exhaust section

| Octave centre frequency            |      | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|------------------------------------|------|------|-------|-------|-------|------|------|------|------|---------------|
| Inlet sound power                  | (dB) | 67   | 73    | 68    | 66    | 61   | 58   | 53   | 49   | 68            |
| Outlet sound power                 | (dB) | 75   | 85    | 78    | 85    | 83   | 81   | 76   | 69   | 88            |
| Airborne sound power               | (dB) | 75   | 82    | 80    | 79    | 79   | 78   | 75   | 70   | 84            |
| Inlet Sound Pressure @ 5 Meters    | (dB) | 42   | 48    | 43    | 41    | 36   | 33   | 28   | 24   | 43            |
| Outlet Sound Pressure @ 5 Meters   | (dB) | 50   | 60    | 53    | 60    | 58   | 56   | 52   | 44   | 63            |
| Airborne Sound Pressure @ 5 Meters | (dB) | 50   | 57    | 55    | 54    | 54   | 53   | 50   | 45   | 59            |

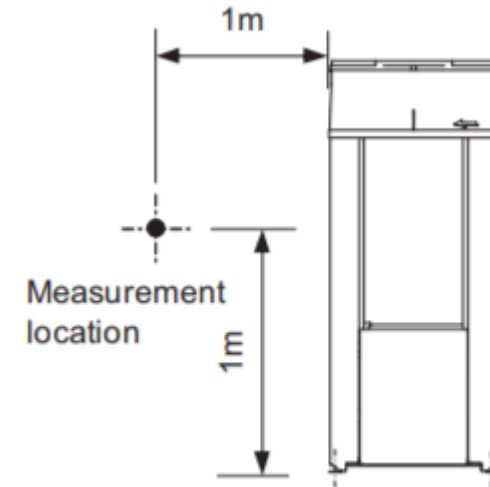
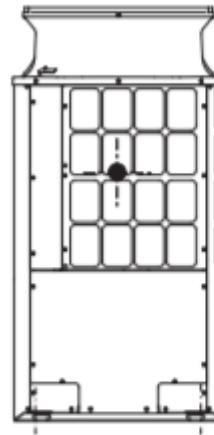
## Plant Report

### 2.5. CU 01



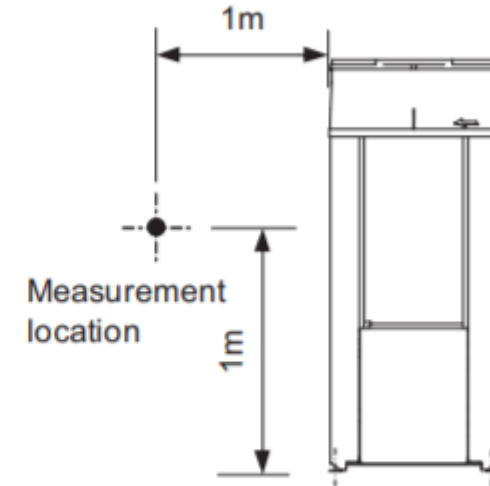
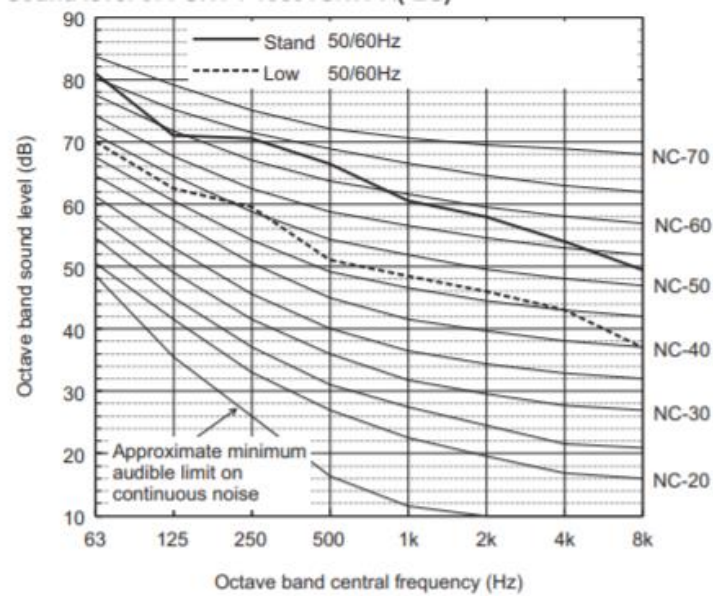
|                  |         | 63   | 125  | 250  | 500  | 1k   | 2k   | 4k   | 8k   | dB(A) |
|------------------|---------|------|------|------|------|------|------|------|------|-------|
| Standard Cooling | 50/60Hz | 78.0 | 62.5 | 61.5 | 59.0 | 52.0 | 48.5 | 48.5 | 43.0 | 60.5  |
| Low noise mode   | 50/60Hz | 53.0 | 51.5 | 41.5 | 42.0 | 35.0 | 31.5 | 38.0 | 38.5 | 45.0  |

When Low noise mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.



## Plant Report

### 2.6. CU 02



|                |         | 63   | 125  | 250  | 500  | 1k   | 2k   | 4k   | 8k   | dB(A) |
|----------------|---------|------|------|------|------|------|------|------|------|-------|
| Standard       | 50/60Hz | 81.0 | 71.0 | 70.5 | 66.5 | 60.5 | 58.0 | 54.0 | 49.5 | 68.0  |
| Low noise mode | 50/60Hz | 70.0 | 62.5 | 59.5 | 51.0 | 48.5 | 46.0 | 43.0 | 37.0 | 56.0  |

When Low noise mode is set, the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

## Plant Report

---