

Report By:

**National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246**



**Report: Cerity TAB Report
Function: Test, Adjust, & Balance
Date: 02/01/2024**

PROJECT

Cerity Partners (Cincinnati, OH)

7727 Kenwood Rd

Cincinnati, OH 45236

Client

Tri-State Mechanical

4783 Brewer Ln.

Petersburg, KY 41080

National TAB

Project: Cerity Partners (Cincinnati, OH)

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Project: Cerity Partners (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: RTU-6

AREA: BUILDING WEST (EXISTING)

| Unit Data | | |
|------------------|--------|------------|
| | Design | Actual |
| MFG | NA | CARRIER |
| Serial Num | - | 2710G10537 |
| Model Num | NA | 48TCFF09 |
| Configuration | - | VERTICAL |
| Num OA Filters 1 | - | 1 |
| OA Filter Size 1 | - | 37"x21" |
| Num PreFilter 1 | - | 4 |
| PreFilter Size 1 | - | 20"x20"x2" |

| Test Data | | |
|--------------------|--------|-------------------|
| | Design | Actual |
| SF CFM | 3255 | 1874 |
| SF RPM | - | 1882 |
| RA CFM | - | 1676 |
| OA CFM | - | 206 |
| RL Voltage | - | 210.9/210.9/212.4 |
| RL Amperage | - | 4.2/4.1/4.1 |
| OA Damper Position | - | MANUALLY SET |

| Motor Data | | |
|----------------|--------|----------|
| | Design | Actual |
| Motor MFG | - | MARATHON |
| Frame | - | 56Y |
| Horsepower | - | NL |
| Motor Rpm | - | 1430 |
| Phase | - | 3 |
| Rated Voltage | - | 208 |
| Rated Amperage | - | 5.2 |
| Service Factor | - | 1.15 |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.34" |
| Fan Suction SP | - | -0.50" |
| Fan Discharge SP | - | 1.21" |
| Total ESP | - | 1.55" |
| Fan Total SP | - | 1.71" |

| Drive Data | | |
|--------------------|--------|--------|
| | Design | Actual |
| Motor Sheave Size | - | 4" |
| Motor Bore Size | - | 0.625" |
| Motor Sheave SetPt | - | 0 OUT |
| Fan Sheave Size | - | AFD74 |
| Fan Sheave Bore | - | 1" |
| Belt CL Distance | - | 17.5" |
| Num of Belts | - | 1 |
| Belt Size | - | A51 |

Notes:

Boxes read at max fan speed. Bypass damper closed. Visually confirmed dampers to be 100% open on boxes and diffusers.

Written By: Gabe Merk on 01/03/2024

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Project: Cerity Partners (Cincinnati, OH)

AHU/RTU



VAV - Single Duct

RTU-6/BUILDING WEST (EXISTING)

| Asset | | | | | | | | | | | |
|------------|---------|---------------|------|------------|----------------|---------|----------------|---------|-----------------|----------|----------|
| Asset Name | MFG | Model Num | Type | Inlet Size | Design Max CFM | Max CFM | Design Min CFM | Min CFM | Design Heat CFM | Heat CFM | Ak (max) |
| VVT-6-5 | CARRIER | 35EN3000L080D | VVT | 9 | 920 | 533 | 201 | | | | |
| VVT-6-6 | CARRIER | 35EN3000L070D | VVT | 9 | 755 | 517 | 201 | | | | |
| VVT-6-7 | CARRIER | 35EN3000L060D | VVT | 7 | 550 | 263 | 121 | | | | |
| VVT-6-8 | CARRIER | 35EN3000L090D | VVT | 9 | 1030 | 561 | 201 | | | | |

Diffuser Supply (GRD)

VVT-6-5/216

| Asset | | | | | | | |
|------------|----------|--------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 65-1 | 212 | CD 4W4 | 8 | 230 | 71 | 121 | 52.6 |
| 65-2 | 212 | CD 4W4 | 8 | 230 | 79 | 133 | 57.8 |
| 65-3 | 212 | CD 4W4 | 8 | 230 | 93 | 140 | 60.9 |
| 65-4 | 212 | CD 4W4 | 8 | 230 | 103 | 139 | 60.4 |
| Total | | | | 920 | 346 | 533 | 57.93% |

VVT-6-6/225

| Asset | | | | | | | |
|------------|----------|---------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 66-1 | 214 | CD 4W-3 | 6 | 110 | 53 | 85 | 77.3 |
| 66-2 | 213 | CD 4W-3 | 6 | 100 | 35 | 88 | 88.0 |
| 66-3 | 215 | CD 4W-5 | 10 | 300 | 144 | 189 | 63.0 |
| 66-4 | 216 | CD 4W-4 | 8 | 130 | 56 | 78 | 60.0 |
| 66-5 | 217 | CD 4W-3 | 6 | 115 | 34 | 77 | 67.0 |
| Total | | | | 755 | 322 | 517 | 68.48% |

VVT-6-7/201

| Asset | | | | | | | |
|------------|----------|---------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 67-1 | 219 | CD 4W-3 | 6 | 125 | 23 | 45 | 36.0 |
| 67-2 | 220 | CD 4W-3 | 6 | 115 | 27 | 48 | 41.7 |
| 67-3 | 221 | CD 4W-3 | 6 | 115 | 17 | 57 | 49.6 |
| 67-4 | 222 | CD 4W-3 | 6 | 115 | 23 | 62 | 53.9 |
| 67-5 | 225 | CD 4W-4 | 6 | 80 | 11 | 51 | 63.8 |
| Total | | | | 550 | 101 | 263 | 47.82% |

VVT-6-8/202

| Asset | | | | | | | |
|------------|----------|--------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 68-1 | 226 | CD4W-4 | 8 | 185 | 81 | 108 | 58.4 |
| 68-2 | 224 | CD4W-4 | 8 | 225 | 98 | 113 | 50.2 |
| 68-3 | 201 | LD-3 | 10X6 | 235 | 61 | 101 | 43.0 |
| 68-4 | 200 | LD-3 | 10X6 | 150 | 61 | 99 | 66.0 |
| 68-5 | 201 | LD-3 | 10X6 | 235 | 111 | 140 | 59.6 |
| Total | | | | 1030 | 412 | 561 | 54.47% |

| Asset | Notes | Date | Written By |
|--------------|---|-------------|-------------------|
| VVT-6-7 | Broken balance damper located on high side of box | 12/21/2023 | Gabe Merk |

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Project: Cerity Partners (Cincinnati, OH)

System/Unit: AHU/RTU



Asset: RTU-11

AREA: BUILDING EAST (EXISTING)

| Unit Data | | |
|------------------|--------|------------|
| | Design | Actual |
| MFG | NA | CARRIER |
| Serial Num | - | 4605G40789 |
| Model Num | NA | 48TFD012-A |
| Configuration | - | VERTICAL |
| Num OA Filters 1 | - | 1 |
| OA Filter Size 1 | - | 36"x21" |
| Num PreFilter 1 | - | 4 |
| PreFilter Size 1 | - | 20"x20"x2" |

| Motor Data | | |
|----------------|--------|--------|
| | Design | Actual |
| Phase | - | 3 |
| Rated Voltage | - | 208 |
| Rated Amperage | - | 7.5 |

| Drive Data | | |
|--------------------|--------|--------|
| | Design | Actual |
| Motor Sheave Size | - | 4" |
| Motor Bore Size | - | 0.875" |
| Motor Sheave SetPt | - | 0 out |
| Fan Sheave Size | - | AFD74 |
| Fan Sheave Bore | - | 1" |
| Belt CL Distance | - | 17" |
| Num of Belts | - | 1 |
| Belt Size | - | A49 |

| Test Data | | |
|--------------------|--------|-------------|
| | Design | Actual |
| SF CFM | 3000 | 1988 |
| SF RPM | - | 914 |
| RA CFM | - | 1852 |
| OA CFM | - | 136 |
| RL Voltage | - | 211/213/211 |
| RL Amperage | - | 4.7/4.7/4.8 |
| OA Damper Position | - | 0% |

| Performance Data | | |
|------------------|--------|--------|
| | Design | Actual |
| MA Plenum SP | - | -0.27" |
| Fan Suction SP | - | -0.49" |
| Fan Discharge SP | - | 1.08" |
| Total ESP | - | 1.35" |
| Fan Total SP | - | 1.57" |

Notes:

Boxes read at max fan speed. Bypass Damper closed. Visually confirmed dampers to be 100% open on boxes and diffusers.

Written By: Gabe Merk on 01/03/2024

National TAB

Project: Cerity Partners (Cincinnati, OH)

AHU/RTU



VAV - Single Duct

RTU-11/BUILDING EAST(EXISTING)

| Asset | | | | | | | | | | | |
|------------|---------|---------------|------|------------|----------------|---------|----------------|---------|-----------------|----------|----------|
| Asset Name | MFG | Model Num | Type | Inlet Size | Design Max CFM | Max CFM | Design Min CFM | Min CFM | Design Heat CFM | Heat CFM | Ak (max) |
| VVT-11M-1 | CARRIER | 35EN3000L070D | VVT | 7 | 540 | 240 | 121 | | | | |
| VVT-11M-2 | CARRIER | 35EN3000L120D | VVT | 12 | 1490 | 536 | 357 | | | | |
| VVT-11M-3 | CARRIER | 35EN3000L090D | VVT | 9 | 1010 | 673 | 201 | | | | |
| VVT-11M-4 | CARRIER | 35EN3000L100D | VVT | 10 | 985 | 539 | 248 | | | | |

Diffuser Supply (GRD)

VVT-11M-1/207

| Asset | | | | | | | |
|------------|----------|------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 111-1 | 202 | LD-3 | 10X6 | 270 | 126 | 126 | 46.7 |
| 111-2 | 202 | LD-3 | 10X6 | 270 | 114 | 114 | 42.2 |
| Total | | | | 540 | 240 | 240 | 44.44% |

VVT-11M-2/208

| Asset | | | | | | | |
|------------|----------|---------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 112-1 | 203 | LD-4 | 12X6 | 335 | 107 | 107 | 31.9 |
| 112-2 | 204 | LD-3 | 10X6 | 295 | 79 | 79 | 26.8 |
| 112-3 | HALL | CD 4W-4 | 8 | 80 | 54 | 54 | 67.5 |
| 112-4 | 205 | LD-3 | 10X6 | 210 | 98 | 98 | 46.7 |
| 112-5 | 206 | LD-4 | 12X6 | 360 | 126 | 126 | 35.0 |
| 112-6 | 207 | LD-3 | 10X6 | 210 | 72 | 72 | 34.3 |
| Total | | | | 1490 | 536 | 536 | 35.97% |

VVT-11M-3/211

| Asset | | | | | | | |
|------------|----------|---------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 113-1 | HALL | CD 4W-3 | 6 | 80 | 59 | 59 | 73.8 |
| 113-2 | 208 | LD-3 | 10X6 | 310 | 212 | 212 | 68.4 |
| 113-3 | 208 | LD-3 | 10X6 | 310 | 199 | 199 | 64.2 |
| 113-4 | 208 | LD-3 | 10X6 | 310 | 203 | 203 | 65.5 |
| Total | | | | 1010 | 673 | 673 | 66.63% |

VVT-11M-4/OFFICE 209-211

| Asset | | | | | | | |
|------------|----------|---------|------|------------|--------|-----------|-------------|
| Asset Name | Location | Type | Size | DESIGN CFM | CFM(1) | FINAL CFM | % to design |
| 114-1 | 209 | LD-3 | 10X6 | 220 | 129 | 129 | 58.6 |
| 114-2 | 210 | LD-3 | 10X6 | 390 | 192 | 192 | 49.2 |
| 114-3 | HALL | CD 4W-3 | 6 | 80 | 104 | 104 | 130.0 |
| 2114 | 211 | LD-3 | 10X6 | 295 | 114 | 114 | 38.6 |
| Total | | | | 985 | 539 | 539 | 54.72% |