

**Report By:**

National TAB  
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**Report: SNC Warehouse TAB Report**

**Function: Test, Adjust, & Balance**

**Date: 05/16/2025**

**Completed By: National TAB**

# PROJECT

## SNC Warehouse (Vandalia, OH)

251 N. Dixie Drive

Vandalia, OH 45377

### Client

Mechanical Services & Design (MSD)

4401 Springfield St

Dayton, OH 45431

# National TAB

Project: SNC Warehouse (Vandalia, OH)

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# National TAB

Project: SNC Warehouse (Vandalia, OH)

## System/Unit: AHU/RTU



Asset: RTU-1

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	235010079L
Model Num	NA	YSJ090A4S0M
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	18"x38"
Num PreFilter 1	-	3/2
PreFilter Size 1	-	16"x24"x2"/18"x24"x2"

Motor Data		
	Design	Actual
Horsepower	3.00	3.0
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.6

Test Data		
	Design	Actual
SF CFM	2700	2628
SF RPM	1308	46%
RA CFM	2500	2412
OA CFM	200	216
RL Voltage	460	488/492/493
RL Amperage	-	1.1/1.0/0.4
OA Damper Position	-	14%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.09"
Fan Suction SP	-	-0.27"
Fan Discharge SP	-	0.27"
Total ESP	1.0	0.36"
Fan Total SP	1.322	0.54"

Completed By: Gabe Merk on 05/16/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-1/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	120-B	A1	8	200	360	201	100.5
SGRD3	120-C	A1	8	200	365	195	97.5
SGRD3	120-A	A1	12	500	745	495	99.0
SGRD4	120-A	A1	12	500	689	452	90.4
SGRD5	120-D	A1	8	200	407	190	95.0
SGRD6	120-A	A1	1	300	616	292	97.3
SGRD7	120-F	A1	10	400	744	413	103.3
SGRD8	120-G	A1	10	400	709	390	97.5
<b>Total</b>				<b>2700</b>	<b>4635</b>	<b>2628</b>	<b>97.33%</b>

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# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-2

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	244310285D
Model Num	NA	YSJ180A4S0H
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	20"x60"
Num PreFilter 1	-	8
PreFilter Size 1	-	20"x24"x2"

Motor Data		
	Design	Actual
Horsepower	2@ 3.00	2@3.0
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2@4.6

Test Data		
	Design	Actual
SF CFM	5600	5477
SF RPM	-	49%
RA CFM	4600	4410
OA CFM	1000	1067
RL Voltage	460	486/491/491
RL Amperage	-	0.9/0.8/0.9/0.9/0.9/0.9
OA Damper Position	-	26%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.25"
Fan Suction SP	-	-0.46"
Fan Discharge SP	-	0.22"
Total ESP	1.0	0.47"
Fan Total SP	1.201	0.68"

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# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-2/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-L	A1	10	400	595	431	107.8
SGRD3	120-L	A1	10	400	630	419	104.8
SGRD3	120-L	A1	10	400	574	403	100.8
SGRD4	120-L	A1	10	400	567	436	109.0
SGRD5	120-L	A1	10	400	481	362	90.5
SGRD6	120-L	A1	10	400	577	388	97.0
SGRD7	120-L	A1	10	400	560	391	97.8
SGRD8	120-L	A1	10	400	469	369	92.3
SGRD9	120-L	A1	10	400	495	363	90.8
SGRD10	120-L	A1	10	400	630	439	109.8
SGRD11	120-L	A1	10	400	526	372	93.0
SGRD12	120-L	A1	10	400	477	371	92.8
SGRD13	120-L	A1	10	400	511	367	91.8
SGRD14	120-L	A1	10	400	153	366	91.5
Total				5600	7245	5477	97.8%

Completed By: Gabe Merk on 05/15/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-3

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	244310284D
Model Num	NA	YSJ180A4S0H
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	20"x60"
Num PreFilter 1	-	8
PreFilter Size 1	-	20"x24"x2"

Motor Data		
	Design	Actual
Horsepower	2@ 3.00	2@3.0
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2@4.6

Test Data		
	Design	Actual
SF CFM	6000	5792
SF RPM	-	53%
RA CFM	5000	4762
OA CFM	1000	1030
RL Voltage	460	492/492/486
RL Amperage	-	1.0/1.0/1.1/1.0/1.0/1.1
OA Damper Position	-	21%

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.28"
Fan Suction SP	-	-0.52"
Fan Discharge SP	-	0.30"
Total ESP	1.0	0.58"
Fan Total SP	1.191	0.82"

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# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-3/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-L	A1	10	400	381	363	90.8
SGRD3	120-L	A1	10	400	522	413	103.3
SGRD3	120-L	A1	10	400	547	403	100.8
SGRD4	120-L	A1	10	400	450	370	92.5
SGRD5	120-L	A1	10	400	476	372	93.0
SGRD6	120-L	A1	10	400	491	388	97.0
SGRD7	120-L	A1	10	400	515	421	105.3
SGRD8	120-L	A1	10	400	475	366	91.5
SGRD9	120-L	A1	10	400	479	378	94.5
SGRD10	120-L	A1	10	400	441	376	94.0
SGRD11	120-L	A1	10	400	482	400	100.0
SGRD12	120-L	A1	10	400	509	413	103.3
SGRD13	120-L	A1	10	400	506	403	100.8
SGRD14	120-L	A1	10	400	459	361	90.3
SGRD15	120-L	A1	10	400	428	365	91.3
<b>Total</b>				<b>6000</b>	<b>7161</b>	<b>5792</b>	<b>96.53%</b>

Completed By: Gabe Merk on 05/15/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-4

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	23481725FA
Model Num	NA	4YCC4048E1090AA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	20"x24"
Num PreFilter 1	-	1/1
PreFilter Size 1	-	18"x18"x2"/18"x20"x2"

Motor Data		
	Design	Actual
Horsepower	-	3/4
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	6

Test Data		
	Design	Actual
SF CFM	1600	1563
SF RPM	-	TAP 4
RA CFM	1350	1300
OA CFM	250	263
RL Voltage	208	211
RL Amperage	-	5.4
OA Damper Position	-	VIA DIAL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.77"
Fan Discharge SP	-	0.25"
Total ESP	1.0	0.62"
Fan Total SP	-	1.02"

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# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-4/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-M	A1	10	400	387	387	96.8
SGRD3	120-M	A1	10	400	383	383	95.8
SGRD3	120-M	A1	10	400	390	390	97.5
SGRD4	120-M	A1	10	400	403	403	100.8
Total				1600	1563	1563	97.69%

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# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-5

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	24405582FA
Model Num	NA	4YCC4060E1115AA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	20"x24"
Num PreFilter 1	-	1/1
PreFilter Size 1	-	18"x18"x2"/18"x20"x2"

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	7.4

Test Data		
	Design	Actual
SF CFM	2000	1832
SF RPM	-	TAP 5
RA CFM	1625	1440
OA CFM	375	392
RL Voltage	208	210
RL Amperage	-	6.2
OA Damper Position	-	VIA DIAL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.60"
Fan Suction SP	-	-1.03"
Fan Discharge SP	-	0.25"
Total ESP	1.0	0.85"
Fan Total SP	-	1.28"

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# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-5/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-N	A1	10	400	338	363	90.8
SGRD3	120-N	A1	10	400	392	372	93.0
SGRD3	120-N	A1	10	400	372	376	94.0
SGRD4	120-N	A1	10	400	376	360	90.0
SGRD5	120-N	A1	10	400	350	361	90.3
Total				2000	1828	1832	91.6%

Completed By: Gabe Merk on 05/12/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-6

AREA:

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	23481681FA
Model Num	NA	4YCC4036E1090AA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	16"x20"
Num PreFilter 1	-	1
PreFilter Size 1	-	18"x25"x2"

Motor Data		
	Design	Actual
Horsepower	-	3/4
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	6

Test Data		
	Design	Actual
SF CFM	1200	1196
SF RPM	-	TAP 4
RA CFM	1070	1069
OA CFM	130	127
RL Voltage	208	213
RL Amperage	-	3.4
OA Damper Position	-	VIA DIAL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.43"
Fan Suction SP	-	-1.00"
Fan Discharge SP	-	0.19"
Total ESP	1.0	0.62"
Fan Total SP	-	1.19"

Completed By: Gabe Merk on 05/15/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)

## AHU/RTU



**Diffuser Supply (GRD)**

**RTU-6/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-R	A1	10	300	145	323	107.7
SGRD3	120-R	A1	10	300	136	288	96.0
SGRD3	120-R	A1	10	300	134	302	100.7
SGRD4	120-R	A1	10	300	140	283	94.3
Total				1200	555	1196	99.67%

Completed By: Gabe Merk on 05/12/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: AHU/RTU



Asset: RTU-7

AREA:100-L

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	24405564FA
Model Num	NA	4YCC4060E1115AA
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	20"x24"
Num PreFilter 1	-	1/1
PreFilter Size 1	-	18"x18"x2"/18"x20"x2"

Motor Data		
	Design	Actual
Horsepower	-	1
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	7.4

Test Data		
	Design	Actual
SF CFM	2000	1904
SF RPM	-	TAP 4
RA CFM	1550	1439
OA CFM	450	465
RL Voltage	208	208
RL Amperage	-	5.6
OA Damper Position	-	VIA DIAL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.34"
Fan Suction SP	-	-1.10"
Fan Discharge SP	-	0.41"
Total ESP	1.0	0.75"
Fan Total SP	-	1.51"

Completed By: Gabe Merk on 05/16/2025

# National TAB

Project:SNC Warehouse (Vandalia, OH)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-7/100-L

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	100-L	CONCENTRIC	24X12	2000	1904	1904	95.2
Total				2000	1904	1904	95.2%

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# National TAB

Project: SNC Warehouse (Vandalia, OH)



**Diffuser Supply (GRD)**

**EXISTING RTU/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	100-C	A1	8	125	176	127	101.6
SGRD2	100-B	A1	8	125	177	130	104.0
SGRD3	100-K	A1	8	100	153	109	109.0
SGRD4	100-A	EXISTING	10	250	360	251	100.4
Total				600	866	617	102.83%

**RTU-1/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-B	A1	8	200	360	201	100.5
SGRD3	120-C	A1	8	200	365	195	97.5
SGRD3	120-A	A1	12	500	745	495	99.0
SGRD4	120-A	A1	12	500	689	452	90.4
SGRD5	120-D	A1	8	200	407	190	95.0
SGRD6	120-A	A1	1	300	616	292	97.3
SGRD7	120-F	A1	10	400	744	413	103.3
SGRD8	120-G	A1	10	400	709	390	97.5
Total				2700	4635	2628	97.33%

Completed By: Gabe Merk on 05/16/2025

**RTU-2/**

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	120-L	A1	10	400	595	431	107.8
SGRD3	120-L	A1	10	400	630	419	104.8
SGRD3	120-L	A1	10	400	574	403	100.8
SGRD4	120-L	A1	10	400	567	436	109.0
SGRD5	120-L	A1	10	400	481	362	90.5
SGRD6	120-L	A1	10	400	577	388	97.0
SGRD7	120-L	A1	10	400	560	391	97.8
SGRD8	120-L	A1	10	400	469	369	92.3
SGRD9	120-L	A1	10	400	495	363	90.8
SGRD10	120-L	A1	10	400	630	439	109.8
SGRD11	120-L	A1	10	400	526	372	93.0
SGRD12	120-L	A1	10	400	477	371	92.8
SGRD13	120-L	A1	10	400	511	367	91.8
SGRD14	120-L	A1	10	400	153	366	91.5
Total				5600	7245	5477	97.8%

Completed By: Gabe Merk on 05/15/2025

**RTU-3/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	120-L	A1	10	400	381	363	90.8
SGRD3	120-L	A1	10	400	522	413	103.3
SGRD3	120-L	A1	10	400	547	403	100.8
SGRD4	120-L	A1	10	400	450	370	92.5
SGRD5	120-L	A1	10	400	476	372	93.0
SGRD6	120-L	A1	10	400	491	388	97.0
SGRD7	120-L	A1	10	400	515	421	105.3
SGRD8	120-L	A1	10	400	475	366	91.5
SGRD9	120-L	A1	10	400	479	378	94.5
SGRD10	120-L	A1	10	400	441	376	94.0
SGRD11	120-L	A1	10	400	482	400	100.0
SGRD12	120-L	A1	10	400	509	413	103.3
SGRD13	120-L	A1	10	400	506	403	100.8
SGRD14	120-L	A1	10	400	459	361	90.3
SGRD15	120-L	A1	10	400	428	365	91.3
Total				6000	7161	5792	96.53%

Completed By: Gabe Merk on 05/15/2025

**RTU-4/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	120-M	A1	10	400	387	387	96.8
SGRD3	120-M	A1	10	400	383	383	95.8
SGRD3	120-M	A1	10	400	390	390	97.5
SGRD4	120-M	A1	10	400	403	403	100.8
Total				1600	1563	1563	97.69%

Completed By: Gabe Merk on 05/12/2025

**RTU-5/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	120-N	A1	10	400	338	363	90.8
SGRD3	120-N	A1	10	400	392	372	93.0
SGRD3	120-N	A1	10	400	372	376	94.0
SGRD4	120-N	A1	10	400	376	360	90.0
SGRD5	120-N	A1	10	400	350	361	90.3
Total				2000	1828	1832	91.6%

Completed By: Gabe Merk on 05/12/2025

**RTU-6/**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	120-R	A1	10	300	145	323	107.7
SGRD3	120-R	A1	10	300	136	288	96.0
SGRD3	120-R	A1	10	300	134	302	100.7
SGRD4	120-R	A1	10	300	140	283	94.3
Total				1200	555	1196	99.67%

Completed By: Gabe Merk on 05/12/2025

**RTU-7/100-L**

<b>Asset</b>							
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>CFM(1)</b>	<b>FINAL CFM</b>	<b>% to design</b>
SGRD1	100-L	CONCENTRIC	24X12	2000	1904	1904	95.2
Total				2000	1904	1904	95.2%

Completed By: Gabe Merk on 05/16/2025

# National TAB

Project:SNC Warehouse (Vandalia, OH)



**Diffuser Ret/Exh (GRD)**

**EXISTING RTU/**

<b>Asset</b>									
<b>Asset Name</b>	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>	<b>FINAL CFM</b>	<b>% to design</b>
EGRD1	100-E	B1	24X24	500		758	580	535	107.0
EGRD2	100-K	B1	24X12	100		0	0	0	0.0
Total				600		758	580	535	89.17%

<b>Asset</b>	<b>Notes</b>	<b>Date</b>	<b>Written By</b>
EGRD2	TRANSFER GRILLE. NO BALANCE AVAILABLE.	05/15/2025	Gabe Merk

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: FAN - Exhaust



Asset: EF-3

AREA:120-Q

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI 160
Serial Num	-	NA
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	90	156

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	24.2W	16 W
Motor Rpm	993	1100
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.51

Completed By: Gabe Merk on 05/15/2025

Notes:  
FAN WIRED FOR LOW SPEED. UNABLE TO FURTHER REDUCE FLOW TO DESIGN.

Written By: Gabe Merk on 05/15/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: FAN - Exhaust



Asset: EF-4

AREA:120-K

Unit Data		
	Design	Actual
MFG	NA	COOK
Model Num	NA	GEMINI 160
Serial Num	-	NA
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	90	158

Motor Data		
	Design	Actual
Motor MFG	-	QUEACE
Horsepower	24.1W	16 W
Motor Rpm	1050	1100
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	0.51

Completed By: Gabe Merk on 05/15/2025

Notes:  
UNIT WIRED FOR LOW SPEED OPERATION. UNABLE TO REDUCE FLOW FURTHER.

Written By: Gabe Merk on 05/15/2025

# National TAB

Project: SNC Warehouse (Vandalia, OH)  
System/Unit: FAN - Exhaust



Asset: EF-5

AREA:120-J

Unit Data		
	Design	Actual
<b>MFG</b>	NA	COOK
<b>Model Num</b>	NA	GEMINI 160
<b>Serial Num</b>	-	NA
<b>Type</b>	CEILING	CEILING

Test Data		
	Design	Actual
<b>CFM</b>	90	160

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	QUEACE
<b>Horsepower</b>	24.1W	16 W
<b>Motor Rpm</b>	1050	1100
<b>Phase</b>	1	1
<b>Voltage (rated)</b>	115	115
<b>Amperage (rated)</b>	-	0.51

Completed By: Gabe Merk on 05/15/2025

Notes:  
UNIT WIRED FOR LOW SPEED OPERATION. UNABLE TO REDUCE FLOW FURTHER TO DESIGN.

Written By: Gabe Merk on 05/15/2025