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**Report: Homesense (Knoxville, TN) - TAB Report**

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

**Date: 09/27/2024**

**Completed By: National TAB**

# PROJECT

## HomeSense (Knoxville, TN)

11263 Parkside Dr

Knoxville, TN 37934

### Client

Triton Services, Inc.

8162 Duke Boulevard

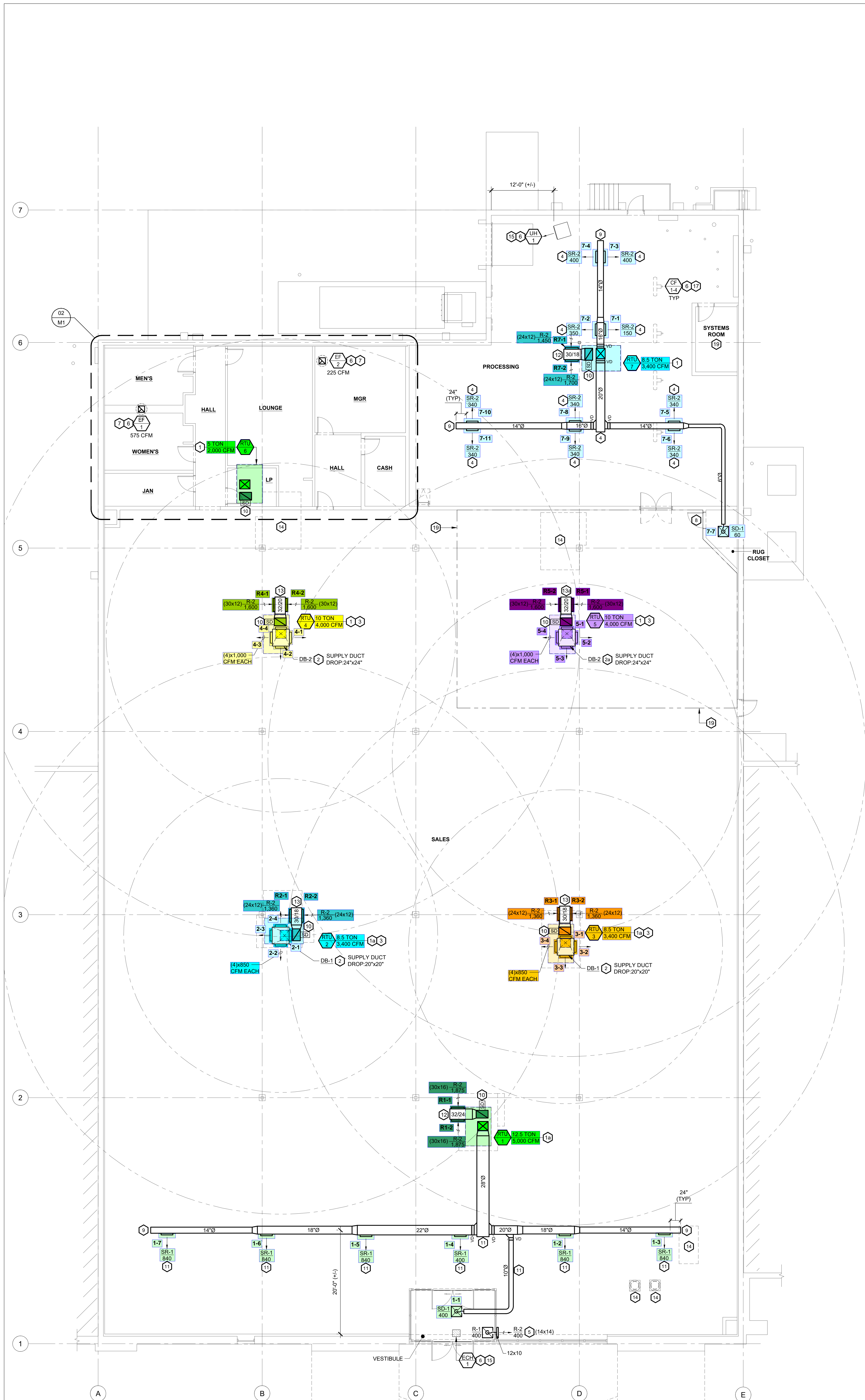
Mason, OH 45040

# National TAB

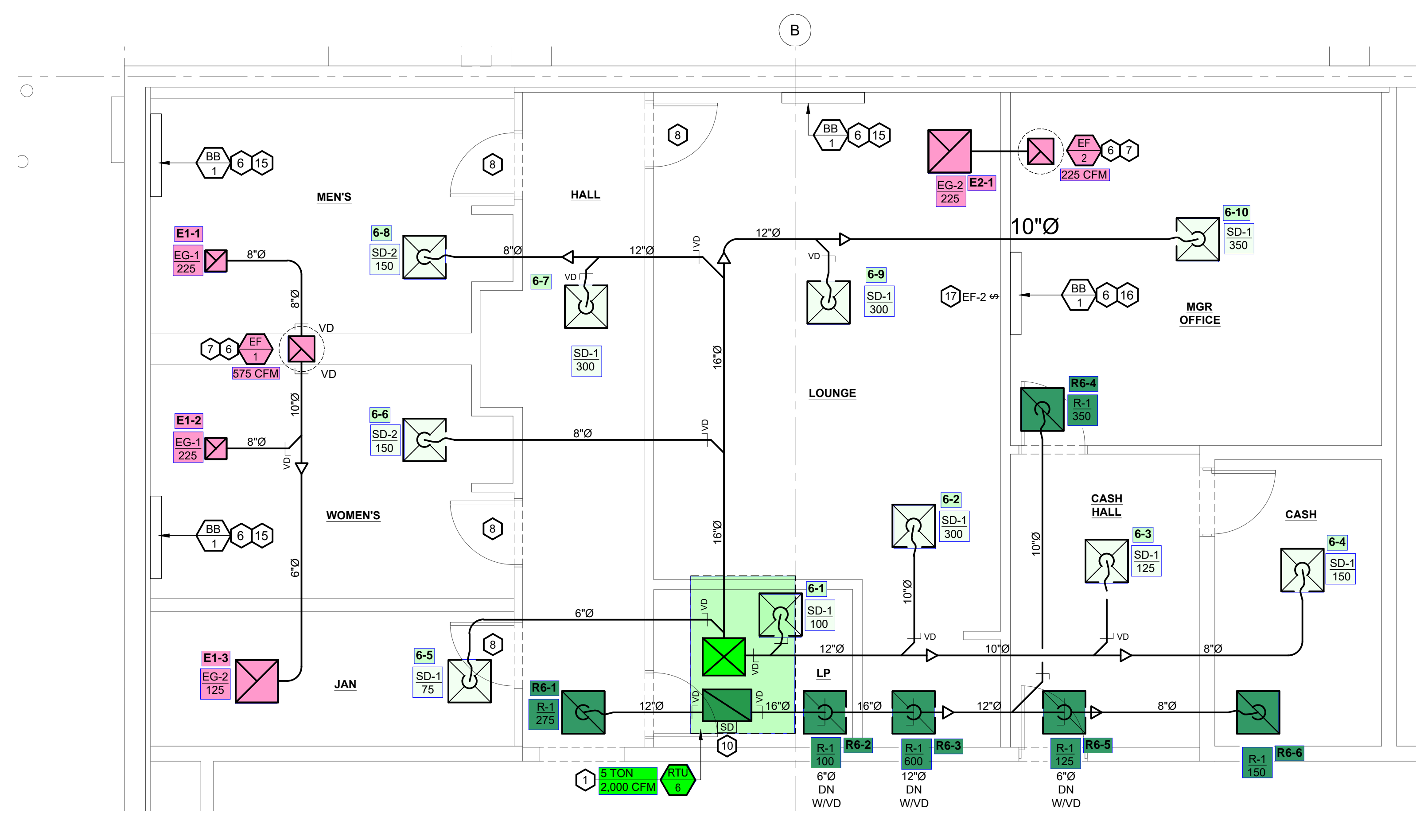
Project: HomeSense (Knoxville, TN)

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**01 OVERALL MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"



**02 ENLARGED MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**KEYED NOTES**

- 1 NEW ROOFTOP UNIT. PROVIDE AND INSTALL FULL ROOF CURB AND FRAME FOR NEW RTU AND CURB. REUSE EXISTING ROOF OPENING AND PROVIDE NEW FLASHING AS REQUIRED ABOVE ROOF. COORDINATE WITH GENERAL CONTRACTOR. COORDINATE WITH EXISTING STRUCTURE AND OVERHEAD UTILITIES AND ADJUST RTU LOCATIONS AS REQUIRED.
- 2 NEW ROOFTOP UNIT OVER EXISTING CURB VIA CURB-ADAPTER. GC TO COORDINATE WITH T.J.X. VENDOR AND FIELD VERIFY FEASIBILITY.
- 3 DRUM LOUVER BOX ASSEMBLY SHALL BE SUPPORTED INDEPENDENTLY FROM DUCTWORK. DRUM LOUVER TO BE MOUNTED AT 15" AFF. ADJUST SUPPLY GRILLES FOR EVEN AIR DISTRIBUTION. CONTRACTOR TO PROVIDE DUCT ROUTING & DROPS FROM RTU DOWN TO CEILING DROP BOX.
- 4 DRUM LOUVER BOX ASSEMBLY SHALL BE SUPPORTED INDEPENDENTLY FROM DUCTWORK. DRUM LOUVER TO BE MOUNTED AT 16" AFF. ADJUST SUPPLY GRILLES FOR EVEN AIR DISTRIBUTION. CONTRACTOR TO PROVIDE DUCT ROUTING & DROPS FROM RTU DOWN TO CEILING DROP BOX.
- 5 NEW RTU LOCATED DIRECTLY ABOVE CONCENTRIC BOX LOCATIONS.
- 6 INSTALL REGISTERS AT -20 DEGREES. PROVIDE NECK AND DAMPERS IN ROUND DUCT AS REQUIRED. MOUNT DUCTWORK @ 15" AFF MINIMUM TO BOTTOM OF LARGEST DUCT.
- 7 INSTALL SUPPLY RETURN/TRANSFER GRILLE OR SUPPLY REGISTERS AS HIGH TO ROOF DECK AS POSSIBLE ON SALES FLOOR. AIR DEVICES TO NOT INTERFERE WITH FUTURE DECOR AND/OR SHELVING. MINIMUM MOUNTING 14" TO BOTTOM OF AIR DEVICE.
- 8 CONTROL VIA EMPLOYEE LIGHTING CONTACTOR RELAY.
- 9 NEW ROOF MOUNTED EXHAUST FAN. PROVIDE AND INSTALL FULL ROOF CURB. PROVIDE FLASHING AS REQUIRED ABOVE ROOF. COORDINATE WITH EXISTING STRUCTURE AND OVERHEAD UTILITIES AND ADJUST RTU LOCATIONS AS REQUIRED.
- 10 HOLLOW METAL DOORS SHOULD BE PROVIDED WITH UNDERCUT FOR ADDITIONAL MAKE-UP AIR. DESIGNER OF RECORD TO COORDINATE WITH ARCHITECTURAL AND DOOR PROVIDER.
- 11 DUCTWORK TO EXTEND 2'-0" BEYOND LAST REGISTER.
- 12 DUCT MOUNTED SMOKE DETECTOR FACTORY FURNISHED WITH EQUIPMENT. DETECTOR IS UPSTREAM OF AIR FILTERS AND AFTER ALL BRANCH CONNECTIONS. INTERLOCKING WIRING BETWEEN FIRE ALARM SYSTEM RELAY AND ROOFTOP UNIT SHUTDOWN CONTACT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. ALL OTHER WIRING, OR ADDITIONAL DEVICES IF REQUIRED, SHALL BE BY FIRE ALARM CONTRACTOR. UPON DETECTION OF SMOKE, ROOFTOP UNIT SHALL SHUT DOWN AND INITIATE SUPERVISORY SIGNAL AT THE FIRE ALARM PANEL.
- 13 SALES FLOOR REGISTERS TO BE MOUNTED AT -20" DOWNWARD, BOTTOM OF LARGEST DIAMETER DUCT TO BE MOUNTED AT 15" AFF ABOVE FINISHED FLOOR. FINAL LOCATION AND ELEVATION TO BE COORDINATED WITH ALL TRADES AND APPROVED BY T.J.X. CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
- 14 BOTTOM OF RETURN AIR DUCTWORK TO BE 14" AFF MINIMUM WITH GRILLES ON VERTICAL FACE OF DUCTWORK. COORDINATE FINAL ELEVATION WITH T.J.X. CM PRIOR TO INSTALLATION. NOTIFY OF ALL DISCREPANCY.
- 15 BOTTOM OF RETURN AIR DUCTWORK TO BE 15" AFF MINIMUM WITH GRILLES ON VERTICAL FACE OF DUCTWORK. COORDINATE FINAL ELEVATION WITH T.J.X. CM PRIOR TO INSTALLATION. NOTIFY OF ALL DISCREPANCY.
- 16 BOTTOM OF RETURN AIR DUCTWORK TO BE MINIMUM 24" ABOVE DROP BOX, WITH GRILLES ON VERTICAL FACE OF DUCTWORK. COORDINATE FINAL ELEVATION WITH T.J.X. CM PRIOR TO INSTALLATION. NOTIFY OF ALL DISCREPANCY.
- 17 GC TO REMOVE EXISTING ROOFTOP EQUIPMENT AND PROVIDE FULL ROOF PATCHING ALONG WITH MEMBRANE, INSULATION AND INFILL OF METAL DECK. EXISTING OPENINGS / PENETRATIONS ON THE INTERIOR ARE TO BE FRAMED AND SKINNED TO MATCH ADJACENT FINISH AT UNDERSIDE OF ROOF DECK. COORDINATE FINAL SCOPE WITH T.J.X. MANAGER OF DEVELOPMENT. GC TO FIELD VERIFY EXACT LOCATION AND QUANTITY.
- 18 EQUIPMENT / HEATER LOCATION TO BE FIELD VERIFIED AND CONFIRMED WITH T.J.X. PROJECT MANAGER PRIOR TO INSTALLATION.
- 19 PROVIDE WITH TORK C506H WALL MOUNTED 6-HOUR TIMER.
- 20 CIRCULATING FANS PROVIDED AND INSTALLED BY CONTRACTOR. SEE MOUNTING DETAILS FOR ADDITIONAL REFERENCE. VERIFY FINAL QUANTITY AND LOCATION WITH C-SET.
- 21 SYSTEMS ROOM VENTED FROM 12" AFF TO ROOF DECK. REFER TO WALL TYPES.
- 22 EXTENT OF RAISED LIGHTING ON SALES FLOOR TO ACCOMMODATE RUG RACK FIXTURES, FOR REFERENCE ONLY. REFER TO C-SET FOR ADDITIONAL INFORMATION.

**CT**

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**REVISION DATES**

NO.	DATE	TYPE

**ISSUE DATES**

TYPE	DATE
T.J.X. REVIEW	04/03/24

DRAWN BY SP  
CHECKED BY JC  
PROJECT NUMBER  
**23-04084**  
DATE  
**04/03/2024**

SHEET TITLE  
**MECHANICAL PLAN**  
SHEET NUMBER  
**M1**



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-1

AREA: SALES

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2F4422419
Model Num	NA	ZLG14E4C3AB2C224A3
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	
Num PreFilter 1	-	4
PreFilter Size 1	-	20x20x2"

Test Data		
	Design	Actual
SF CFM	5000	4233
SF RPM	1139	1125
RA CFM	3750	2904
OA CFM	1250	1281
RL Voltage	460	488/491/492
RL Amperage	6.7	6.07/6.52/6.11
OA Damper Position	-	30%
Brake Horse Power	4.41	4.88

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	184TZ
Horsepower	5.25	5.25
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	6.7	6.7
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.18"
Fan Suction SP	-	-1.53"
Fan Discharge SP	-	1.12"
Total ESP	0.36	2.27"
Fan Total SP	1.40	2.65"

Drive Data	
	Actual
Motor Sheave Size	5.5"
Motor Bore Size	3/4"
Motor Sheave SetPt	2 TURNS OUT
Fan Sheave Size	8.5"
Fan Sheave Bore	1"
Belt CL Distance	18"
Num of Belts	1
Belt Size	BX54

Completed By: Jordan Best on 10/22/2024

Notes:

Initial setpoints  
Fan 90%  
Econ 25%

Current setpoints

Fan 100%  
Econ 30%

Suspected return restriction. MA plenum pressures at economizer setpoints as follows:

- 0%: -1.33"
- 20%: -1.28"
- 30%: -1.19"
- 40%: -1.10"
- 50%: -1.04"
- 60%: -1.00"
- 70%: -1.05"

Least resistance at 60% OA damper despite the OA opening being 38x7"

Motor RPM 1755

Amperage when door is opened is over 7A, speeding up motor any more could cause spikes above FLA during balance.

Written By: Riley Frady on 09/18/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-1/SALES

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1	SALES	SD-1	10	400	117	76	19.0
1-2	SALES	SR-1		840	801	764	91.0
1-3	SALES	SR-1		840	773	707	84.2
1-4	SALES	SR-1		400	761	334	83.5
1-5	SALES	SR-1		840	169	851	101.3
1-6	SALES	SR-1		840	561	733	87.3
1-7	SALES	SR-1		840	860	768	91.4
Total				5000	4042	4233	84.66%

### Diffuser Ret/Exh (GRD)

#### RTU-1/SALES

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R1-1	R2	30X16	1875	3.09	1156	1467	1467	78.2
R1-2	R2	30X16	1875	3.09	1209	1437	1437	76.6
Total			3750		2365	2904	2904	77.44%

Completed By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-2

AREA:SALES

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2D4314499
Model Num	NA	ZYG09E4C3AB2C224A2
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x22"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	182TZ
Horsepower	3.70	3.7
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	4.7	4.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	4.75"
Motor Bore Size	0.75"
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	7.25"
Fan Sheave Bore	1"
Belt CL Distance	17.25"
Num of Belts	1
Belt Size	A50

Test Data		
	Design	Actual
SF CFM	3400	3125
SF RPM	901	908
RA CFM	2720	2547
OA CFM	680	619
RL Voltage	460	490/491/489 LINE SIDE
RL Amperage	4.7	3.33/3.27/3.31
OA Damper Position	-	18%
Brake Horse Power	2.06	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.86"
Fan Suction SP	-	-1.16"
Fan Discharge SP	-	0.56"
Total ESP	0.6	1.42"
Fan Total SP	1.07	1.72"

Completed By: Jordan Best on 10/21/2024

Notes:

Initial setpoints

Fan 100%

Econ 20%

Final setpoints

Fan 100%

Econ 18%

Motor RPM 1775

Written By: Riley Frady on 09/19/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-2/SALES

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
2-1	SALES		3.5x24	850	788	787	92.6
2-2	SALES		3.5x24	850	814	805	94.7
2-3	SALES		3.5x24	850	797	782	92.0
2-4	SALES		3.5x24	850	795	792	93.2
Total				3400	3194	3166	93.12%

### Diffuser Ret/Exh (GRD)

#### RTU-2/SALES

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R2-1	R-2	24X12	1360		1159		1231	90.5
R2-2	R-2	24X12	1360		1246		1316	96.8
Total			2720		2405	0	2547	93.64%



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-3

AREA:SALES

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2D4314500
Model Num	NA	ZYG09E4C3AB2C224A2
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x22"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	182TZ
Horsepower	3.70	3.7
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	4.7	4.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	4.75"
Motor Bore Size	0.75"
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	7.25"
Fan Sheave Bore	1"
Belt CL Distance	17.25"
Num of Belts	1
Belt Size	A50

Test Data		
	Design	Actual
SF CFM	3400	3295
SF RPM	901	913
RA CFM	2720	2574
OA CFM	680	721
RL Voltage	460	489 / 491 / 492 LINE SIDE
RL Amperage	4.7	3.55 / 3.53 / 3.51
OA Damper Position	-	20%
Brake Horse Power	2.06	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.86"
Fan Suction SP	-	-1.17"
Fan Discharge SP	-	0.55"
Total ESP	0.6	1.41"
Fan Total SP	1.07	1.72"

Completed By: Jordan Best on 10/21/2024

Notes:

Initial setpoints:

Fan 95%

Econ 30%

Current setpoints:

Fan 100%

Econ 20%

Motor RPM 1774

Written By: Riley Frady on 09/18/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-3/SALES

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
3-1	SALES		3.5x24	850	760	793	93.3
3-2	SALES		3.5x24	850	792	848	99.8
3-3	SALES		3.5x24	850	791	826	97.2
3-4	SALES		3.5x24	850	778	828	97.4
Total				3400	3121	3295	96.91%

### Diffuser Ret/Exh (GRD)

#### RTU-3/SALES

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R3-1	R-2	24X12	1360		1007	1119	1305	96.0
R3-2	R-2	24X12	1360		982	1088	1269	93.3
Total			2720		1989	2207	2574	94.63%



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-4

AREA: SALES

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2F4472464
Model Num	NA	ZYG12E4C3AB2C224A3
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x22"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	184TZ
Horsepower	5.25	5.25
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	6.7	6.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	5.25"
Motor Bore Size	0.75"
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	8.25"
Fan Sheave Bore	1"
Belt CL Distance	17"
Num of Belts	1
Belt Size	BX52

Test Data		
	Design	Actual
SF CFM	4000	4005
SF RPM	1001	941
RA CFM	3200	3193
OA CFM	800	812
RL Voltage	460	496/500/500 LINE SIDE
RL Amperage	6.7	4.60 / 4.47 / 4.45
OA Damper Position	-	27%
Brake Horse Power	2.97	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.78"
Fan Suction SP	-	-1.22"
Fan Discharge SP	-	0.60"
Total ESP	0.6	1.38"
Fan Total SP	0.72	1.82"

Completed By: Jordan Best on 10/21/2024

Notes:

Initial setpoints:

Fan 80%

Econ 40%

Current setpoints:

Fan 94%

Econ 27%

Motor RPM 1669

Unable to measure sheave setpoint in rotations due to key recessed too far into sheave to remove and adjust.

Written By: Riley Frady on 09/19/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-4/SALES

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
4-1	SALES		20x6	1000	928	1054	105.4
4-2	SALES		20x6	1000	867	983	98.3
4-3	SALES		20x6	1000	885	1014	101.4
4-4	SALES		20x6	1000	872	954	95.4
Total				4000	3552	4005	100.12%

### Diffuser Ret/Exh (GRD)

#### RTU-4/SALES

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R4-1	R-2	30X12	1600		1152	1520	1520	95.0
R4-2	R-2	30X12	1600		1247	1672	1672	104.5
Total			3200		2399	3192	3192	99.75%

Completed By: Riley Frady on 09/17/2024



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-5

AREA:SALES

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2F4472463
Model Num	NA	ZYG12E4C3AB2C224A3
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x22"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	184TZ
Horsepower	5.25	5.25
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	6.7	6.7
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	5.25"
Motor Bore Size	0.75"
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	8.25"
Fan Sheave Bore	1"
Belt CL Distance	17"
Num of Belts	1
Belt Size	BX52

Test Data		
	Design	Actual
SF CFM	4000	4063
SF RPM	1001	953
RA CFM	3200	2895
OA CFM	800	809
RL Voltage	460	494.5/488.5/493.1
RL Amperage	6.7	4.66/5.14/5.84
OA Damper Position	-	30%
Brake Horse Power	2.97	4.08

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.02"
Fan Suction SP	-	-1.36"
Fan Discharge SP	-	0.54"
Total ESP	0.6	1.56"
Fan Total SP	0.72	1.9"

Completed By: Jordan Best on 10/22/2024

Notes:

INITIAL SETPOINTS:

FAN 100%

ECON 27%

CURRENT SETPOINTS:

DAN 94%

ECON 28%

Written By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-5/SALES

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
5-1	SALES			1000	1053	1053	105.3
5-2	SALES			1000	999	999	99.9
5-3	SALES			1000	1028	1028	102.8
5-4	SALES			1000	983	983	98.3
Total				4000	4063	4063	101.57%

### Diffuser Ret/Exh (GRD)

#### RTU-5/SALES

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R5-1	R-2	30X12	1600		1450	1450	1450	90.6
R5-2	R-2	30X12	1600		1445	1445	1445	90.3
Total			3200		2895	2895	2895	90.47%

Completed By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-6

AREA:MGR OFFICE

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2F4451706
Model Num	NA	ZLG06E4C3AB2C224A2
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	30x16"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Test Data		
	Design	Actual
SF CFM	2000	1950
SF RPM	1414	1298
RA CFM	1600	1477
OA CFM	400	384
RL Voltage	460	494.7/495.8/489.8
RL Amperage	4.1	2.91/2.55/3.48
OA Damper Position	-	25%
Brake Horse Power	1.62	2.1

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	2.90	2.9
Motor Rpm	-	1745
Phase	3	3
Rated Voltage	460	460
Rated Amperage	4.1	4.1
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.94"
Fan Suction SP	-	-1.4"
Fan Discharge SP	-	0.47"
Total ESP	0.8	1.41"
Fan Total SP	0.89	1.87"

Drive Data	
	Actual
Motor Sheave Size	4"
Motor Bore Size	0.75"
Motor Sheave SetPt	2 TURNS OUT
Fan Sheave Size	4.5"
Fan Sheave Bore	0.75"
Belt CL Distance	14.5"
Num of Belts	1
Belt Size	A39

Completed By: Jordan Best on 10/22/2024

Notes:

Initial setpoints:

Fan 80%

Econ 30%

Current setpoints:

Fan 100%

Econ 25%

Written By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-6/MGR OFFICE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
6-1	LP	SD-1		100	72	92	92.0
6-2	LOUNGE	SD-1	10	300		292	97.3
6-3	CASH HALL	SD-1		125	205	147	117.6
6-4	CASH	SD-1	8	150	215	163	108.7
6-5	JAN	SD-1	6	75	70	69	92.0
6-6	WOMENS	SD-2	8	150	150	154	102.7
6-7	HALL	SD-1		300	45	281	93.7
6-8	MENS	SD-2	8	150	204	147	98.0
6-9	LOUNGE	SD-1		300	360	278	92.7
6-10	MGR OFFICE	SD-1	10	350	228	328	93.7
Total				2000	1549	1951	97.55%

### Diffuser Ret/Exh (GRD)

#### RTU-6/MGR OFFICE

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
R6-1	R-1	12	275	1	427	281	281	102.2
R6-2	R-1	6	100	1	43	94	94	94.0
R6-3	R-1	12	600	1	499	564	564	94.0
R6-4	R-1	10	350	1	90	282	282	80.6
R6-5	R-1	6	125	1	13	113	113	90.4
R6-6	R-1	8	150	1	67	143	143	95.3
Total			1600		1139	1477	1477	92.31%

Completed By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: AHU/RTU



Asset: RTU-7

AREA:PROCESSING

Unit Data		
	Design	Actual
MFG	NA	YORK
Serial Num	-	N2D4314498
Model Num	NA	ZYG09E4C3AB2C224A2
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	36x22"
Num PreFilter 1	-	4
PreFilter Size 1	-	20X20X2

Test Data		
	Design	Actual
SF CFM	3400	3139
SF RPM	955	984.8
RA CFM	2900	2666
OA CFM	500	473
RL Voltage	460	494.3/495.4/489.2
RL Amperage	4.7	4.93/4.48/4.36
OA Damper Position	-	25%
Brake Horse Power	2.23	3.6

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	182TZ
Horsepower	3.70	3.7
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	4.7	4.7
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.03"
Fan Suction SP	-	-1.3"
Fan Discharge SP	-	0.63"
Total ESP	0.8	1.66"
Fan Total SP	1.27	1.93"

Drive Data	
	Actual
Motor Sheave Size	1VM50-7/8
Motor Bore Size	1VM50-7/8
Motor Sheave SetPt	3 TURNS OUT
Fan Sheave Size	AK74-1
Fan Sheave Bore	AK74-1
Belt CL Distance	14.5"
Num of Belts	1
Belt Size	A50

Completed By: Jordan Best on 10/22/2024

Notes:

Initial setpoints

Fan 100%

Econ 25%

Current setpoints after pulley sheave adjustment:

Fan 92%

Econ 25%

. Branch dampers unable to be added on return trip due to inventory in warehouse, diffusers also inaccessible. Supply flow left as-is.

.Over amping @ 100% fan speed, set point reduced til fan below FLA

Written By: Jordan Best on 10/22/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-7/PROCESSING

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
RTU-7-SGRD1		SR-2		150	180	180	120.0
RTU-7-SGRD2		SR-2		350	229	229	65.4
RTU-7-SGRD3		SR-2		400	407	407	101.8
RTU-7-SGRD4		SR-2		400	421	421	105.3
RTU-7-SGRD5		SR-2		340	426	426	125.3
RTU-7-SGRD6		SR-2		340	333	333	97.9
RTU-7-SGRD7		SD-1		60	85	85	141.7
RTU-7-SGRD8		SR-2		340	184	184	54.1
RTU-7-SGRD9		SR-2		340	233	233	68.5
RTU-7-SGRD10		SR-2		340	311	311	91.5
RTU-7-SGRD11		SR-2		340		330	97.1
Total				3400	2809	3139	92.32%

Completed By: Jordan Best on 10/21/2024



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: FAN - Exhaust



Asset: EF-1

AREA:JAN

Unit Data		
	Design	Actual
<b>MFG</b>	NA	YORK
<b>Model Num</b>	NA	EVD13R
<b>Serial Num</b>	-	F24GZ96593
<b>Type</b>	CRE	DOWNBLAST

Test Data		
	Design	Actual
<b>CFM</b>	575	447
<b>RL Voltage</b>	-	122.1
<b>RL Amperage</b>	-	1.96
<b>Total ESP</b>	0.50	0.25"

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	FASCO
<b>Frame</b>	-	NL
<b>Horsepower</b>	0.167	1/6
<b>Motor Rpm</b>	1550	1550
<b>Phase</b>	1	1
<b>Voltage (rated)</b>	120	120
<b>Amperage (rated)</b>	-	2.1
<b>Service Factor</b>	-	NL

Completed By: Riley Frady on 09/19/2024

**Notes:**

- 2024-09-16 - NO POWER TO UNIT
- 2024-09-17 - ELECTRICIANS CONNECTED SPEED CONTROLLER INCORRECTLY, FRIED BOARD. UNIT HARD WIRED ON.
- 2024-09-18 - SPEED CONTROLLER REPLACED. UNIT STILL NOT ACHIEVING DESIGN FLOW.

Written By: Riley Frady on 09/19/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## FAN - Exhaust



### Diffuser Ret/Exh (GRD)

#### EF-1/JAN

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E1-1	EG-1	8	225		211	175	174	77.3
E1-2	EG-1	8	225		161	172	169	75.1
E1-3	EG-2	6	125		116	104	104	83.2
Total			575		488	451	447	77.74%



# National TAB

Project: HomeSense (Knoxville, TN)  
System/Unit: FAN - Exhaust



Asset: EF-2

AREA:MGR OFFICE

Unit Data		
	Design	Actual
MFG	NA	YORK
Model Num	NA	EVD10R
Serial Num	-	G24IZ66467
Type	CRE	DOWNBLAST

Test Data		
	Design	Actual
CFM	225	211
RL Voltage	-	122.7
RL Amperage	-	1.24
Total ESP	0.50	0.14"

Motor Data		
	Design	Actual
Motor MFG	-	FASCO
Frame	-	NL
Horsepower	0.083	1/12
Motor Rpm	1550	1550
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.1
Service Factor	-	NL

Completed By: Riley Frady on 09/17/2024



# National TAB

Project: HomeSense (Knoxville, TN)

## FAN - Exhaust



### Diffuser Ret/Exh (GRD)

#### EF-2/MGR OFFICE

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E2-1	EG-2	24x24"	225	1	170	211	211	93.8
Total			225		170	211	211	93.78%