

Report By:

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



**Report: PRELIM**

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

**Date: 08/09/2023**

# PROJECT

## 08-07-23 WALGREENS #4721 - PUEBLO, CO

2900 W NORTHERN AVE

PUEBLO, CO 81005

### Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

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## Issue List

- EF-2 Cross Ducted w/ Supply Duct
- EF-5 Removed from plans per MC



**08-07-23 WALGREENS #4721 - PUEBLO, CO**

**Project Issue Information**

**Issue Name :** EF-2 Cross Ducted w/ Supply Duct  
**Description :** Fan was reading slightly positive. Removed flex and observed that fan was exhausting into supply duct and being effectively neutralized. Contacted MC and was informed they would have someone on it in the coming days.  
**Created By :** National TAB                      **Assigned To :** National TAB - Brianna Biggs  
**Status :** Open  
**Originated Date :** 08/09/2023 - Jordan Best - National TAB



**08-07-23 WALGREENS #4721 - PUEBLO, CO**

**Project Issue Information**

**Issue Name :** EF-5 Removed from plans per MC  
**Description :** Contacted MC about status of EF-5 and was informed the decision was made to remove it from the plans.  
**Created By :** National TAB                      **Assigned To :** National TAB - Brianna Biggs  
**Status :** Open  
**Originated Date :** 08/09/2023 - Jordan Best - National TAB

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU1

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	2975	2868
Serial Num	-	N2K2935428	SF RPM	1089	984
Model Num	ZT102N18R4B5GCE2R1	ZT102N18R4B5GCE2R1	RA CFM	2422	2148
Type	RTU	RTU	OA CFM	553	720
Configuration	HORIZONTAL	HORIZONTAL	RL Voltage	-	494
Num OA Filters 1	-	1	RL Amperage	-	3.1
OA Filter Size 1	-	30" X 22"	SF Rotation	-	CW
Num Final Filter 1	-	4	RA Damper Position	-	80%
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	20%
			Min OA Damper Type	-	ECON
			OA Enthalpy Setpt	-	NA

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	208
Rated Amperage	-	8.3

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.32"
Fan Suction SP	-	-0.72"
Fan Discharge SP	-	0.59"
Total ESP	1.2	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	4.5"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	4 TURNS OUT
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1"
Belt CL Distance	-	19.5"
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project:08-07-23 WALGREENS #4721 - PUEBLO, CO

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU1/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	CHECK OUT		12X6	265					-
SGRD2	CHECK OUT		12X12	475					-
SGRD3	COSMETICS		12X12	475					-
SGRD4	COSMETICS		12X12	475					-
SGRD5	CHECK OUTS		12X12	475					-
SGRD6	SALES		12X6	270					-
SGRD7	SALES		12X6	270					-
SGRD8	SALES		12X6	270					-
Total				2975		0	0	0	0%

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU2

AREA:SALES/ OFFICES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	2975	
Serial Num	-	N2F2609560	SF RPM	1055	
Model Num	ZT102N18R4B5GCA2R1	ZT102N18R4B5GCA2R1	RA CFM	2422	
Type	RTU	RTU	OA CFM	553	
Configuration	VERTICAL	VERTICAL	RL Voltage	-	495
Num OA Filters 1	-	1	RL Amperage	-	3.8
OA Filter Size 1	-	30" X 22"	SF Rotation	-	CW
Num Final Filter 1	-	4	RA Damper Position	-	80%
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	20%
			Min OA Damper Type	-	ECON
			OA Enthalpy Setpt	-	

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	8.3

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.53"
Fan Suction SP	-	-0.73"
Fan Discharge SP	-	0.45"
Total ESP	1.2"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	4.5"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1"
Belt CL Distance	-	19.5"
Num of Belts	-	1
Belt Size	-	
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project:08-07-23 WALGREENS #4721 - PUEBLO, CO

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU2/SALES/ OFFICES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES		12X6	270					-
SGRD2	SALES		12X6	270					-
SGRD3	PHOTO		18X18	350					-
SGRD4	PASSAGE 2		9X9	335					-
SGRD5	OFFICE		12"	350					-
SGRD6	SALES		15X15	350					-
SGRD7	SALES		12X12	350					-
SGRD8	SALES		12X12	350					-
SGRD9	SALES			350					-
Total				2975		0	0	0	0%

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU3

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1750	2543
Serial Num	-	N2K2935596	SF RPM	1051	
Model Num	ZJ061N12D4B5GCB2R3	ZJ061N12D4B5GCB2R3	RA CFM	1650	
Type	RTU	RTU	OA CFM	100	
Configuration	HORIZONTAL	HORIZONTAL	RL Voltage	-	
Num OA Filters 1	-	1	RL Amperage	-	
OA Filter Size 1	-	30" X 22"	SF Rotation	-	
Num Final Filter 1	-	4	RA Damper Position	-	
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	
			Min OA Damper Type	-	
			OA Enthalpy Setpt	-	

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	208
Rated Amperage	-	6.6

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.3"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	5"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1"
Belt CL Distance	-	17.5"
Num of Belts	-	1
Belt Size	-	A51
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project:08-07-23 WALGREENS #4721 - PUEBLO, CO

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU3/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES		12X12						-
SGRD2	SALES		12X12						-
SGRD3	SALES		12X12						-
SGRD4	SALES		12X12						-
Total				0		0	0	0	0%

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU4

AREA:SALES/BREAK ROOM

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	\$F CFM	1750	2418
Serial Num	-	N2K2935595	\$F RPM	1051	
Model Num	ZJ061N12D4B5GCB2R3	ZJ061N12D4B5GCB2R3	RA CFM	1650	
Type	RTU	RTU	OA CFM	100	
Configuration	VERTICAL	VERTICAL	RL Voltage	-	
Num OA Filters 1	-	1	RL Amperage	-	
OA Filter Size 1	-	30" X 22"	\$F Rotation	-	
Num Final Filter 1	-	4	RA Damper Position	-	
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	
			Min OA Damper Type	-	
			OA Enthalpy Setpt	-	

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	208
Rated Amperage	-	6.6

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.3"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	5"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1"
Belt CL Distance	-	18.5"
Num of Belts	-	1
Belt Size	-	A51
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project:08-07-23 WALGREENS #4721 - PUEBLO, CO

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU4/SALES/BREAK ROOM

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES		12x12						-
SGRD2	SALES		12x12						-
SGRD3	EMPLOYEE ROOM		6"						-
SGRD4	SALES		12x12						-
SGRD5	SALES		12x12						-
Total				0		0	0	0	0%

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU5

AREA:PHARMACY

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1400	2177
Serial Num	-	N2H2934789	SF RPM	995	
Model Num	ZJ049N12D4B5BCB2R2	ZJ049N12D4B5BCB2R2	RA CFM	1400	
Type	RTU	RTU	OA CFM	0	
Configuration	VERTICAL	VERTICAL	RL Voltage	-	
Num OA Filters 1	-	1	RL Amperage	-	
OA Filter Size 1	-	30" X 22"	SF Rotation	-	
Num Final Filter 1	-	4	RA Damper Position	-	
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	
			Min OA Damper Type	-	
			OA Enthalpy Setpt	-	

Motor Data		
	Design	Actual
Motor MFG	-	CENTURY
Frame	-	56HZ
Horsepower	1.50	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	208
Rated Amperage	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.2"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	4"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	
Fan Sheave Size	-	5.5"
Fan Sheave Bore	-	0.75"
Belt CL Distance	-	17"
Num of Belts	-	1
Belt Size	-	A46
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project:08-07-23 WALGREENS #4721 - PUEBLO, CO

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU5/PHARMACY

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	PHARMACY		12X12						-
SGRD2	PHARMACY		12X12						-
SGRD3	PHARMACY		9X9						-
SGRD4			12X12						-
SGRD5			8X6						-
Total				0		0	0	0	0%

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: AHU/RTU



Asset: RTU6

AREA:RECEIVING

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1400	
Serial Num	-	N2H2934799	SF RPM	995	
Model Num	ZJ049N12D4B5BCB2R2	ZJ049N12D4B5BCB2R2	RA CFM	1300	
Type	RTU	RTU	OA CFM	100	
Configuration	VERTICAL	VERTICAL	RL Voltage	-	
Num OA Filters 1	-	1	RL Amperage	-	
OA Filter Size 1	-	30" X 22"	SF Rotation	-	
Num Final Filter 1	-	4	RA Damper Position	-	
Final Filter Size 1	-	20" X 24" X 2"	Min OA Damper Position	-	
			Min OA Damper Type	-	
			OA Enthalpy Setpt	-	

Motor Data		
	Design	Actual
Motor MFG	-	CENTURY
Frame	-	56HZ
Horsepower	1.50	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	208
Rated Amperage	-	5

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	1.2"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	4"
Motor Bore Size	-	0.75"
Motor Sheave SetPt	-	
Fan Sheave Size	-	5.5"
Fan Sheave Bore	-	0.75"
Belt CL Distance	-	17.5"
Num of Belts	-	1
Belt Size	-	A46
Belt Alignment	-	GOOD

General		
	Design	Actual
Fan Rotation Correct	-	YES
Unit Filters Clean	-	YES
Condensate Drain Installed	-	YES

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: FAN - Exhaust



Asset: EF1

AREA:OFFICE

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	
Type	CEILING	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	121W	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	Actual
CFM	300	
Fan RPM	890	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.375"	
Fan Inlet SP	-	
Fan Discharge SP	-	

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: FAN - Exhaust



Asset: EF2

AREA:EMPLOYEE ROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-250	SP-250
Serial Num	-	
Type	CEILING	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	121W	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	Actual
CFM	300	
Fan RPM	890	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.375"	
Fan Inlet SP	-	
Fan Discharge SP	-	

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: FAN - Exhaust



Asset: EF3

AREA:MENS RR

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-226	SP-226
Serial Num	-	
Type	CEILING	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	87W	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	Actual
CFM	250	
Fan RPM	1000	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: FAN - Exhaust



Asset: EF4

AREA:WOMENS RR

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SP-226	SP-226
Serial Num	-	
Type	CEILING	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	81W	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	Actual
CFM	250	
Fan RPM	1000	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	

# National TAB

Project: 08-07-23 WALGREENS #4721 - PUEBLO, CO

## System/Unit: FAN - Exhaust



Asset: EF5

AREA:PHOTO

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	CSP-260	CSP-260
Serial Num	-	
Type	UTILITY	
Configuration	VERTICAL	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	385W	
Motor Rpm	-	
Phase	1	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	
Motor Bore Size	-	
Motor Sheave SetPt	-	
Fan Sheave Size	-	
Fan Sheave Bore	-	
Belt CL Distance	-	
Num of Belts	-	
Belt Size	-	

Test Data		
	Design	Actual
CFM	750	
Fan RPM	928	
Fan Rotation	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Suction ESP	-	
Discharge ESP	-	
Total ESP	0.25"	

## **CheckList List**

- TECH - 01 RTU INSTALLATION CHECKLIST
- TECH - 02 EXHAUST FANS INSPECTIONS
- TECH - 03 START-UP CONTROLS PROGRAMMING
- TECH - 04 EMS/SENSOR VALIDATION
- TECH - 05 TAB CHECKLIST
- TECH - 06 FUNCTIONAL TESTS
- TECH - 07 TEMPERATURE SETPOINTS
- TECH - 08 ENTRANCE HEATERS
- TECH - SITE PICTURES



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 01 RTU INSTALLATION CHECKLIST **Status :** Not Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

#### General / Exterior Inspections

Verify all required equipment has been replaced per TA and BOM. Pass

**Comment:**

All units are installed in the proper locations Pass

**Comment:**

Units are labeled correctly Pass

**Comment:**

Asset tag installed Pass

**Comment:**

Roof is clear of debris. Pass

**Comment:**

Maintenance access for all unit access panels is acceptable and panels open freely. Pass

**Comment:**

Cabinet and general installation is complete. Pass

**Comment:**

Unit is secure to curb and level horizontally and vertically.

Pass

**Comment:**

Access doors close tightly with no leaks

Pass

**Comment:**

Condensate and gas piping is properly supported.

Pass

**Comment:**

Costguard is installed per scope of work and piping unions are cemented.

Pass

**Comment:**

Additional Comments

**Comment:**

**Interior Inspections**

Fan rotation is correct

Pass

**Comment:**

Pulleys are correctly aligned and both motor and fan sheave pins are tightened in place.

Pass

**Comment:**

Return air and outside air dampers close tightly with no gaps

Pass

**Comment:**

Cabinet and coils are not damaged and in like new condition.

Pass

**Comment:**

Inside of unit is clean and clear of debris.

Pass

**Comment:**

Validate condensate is piped to splash block, draing, or roof drain per code requirements Pass

**Comment:**

Verify filters are installed, clean and of proper size. Verify there is no air by-pass around filters. Pass

**Comment:**

Curb is sealed with no air leakage. Pass

**Comment:**

Additional Comments:

**Comment:**

**Fire/Smoke Alarm Systems**

In duct smoke detectors are installed Pass

**Comment:**

Fire alarm panel status (visual inspection where possible)

**Comment:**

Additional Comments:

**Comment:**

**Electrical**

Electrical wiring is complete with no visible damage Pass

**Comment:**

Electrical connections are tight with sealtight around any unit penetrations. Pass

**Comment:**

Disconnect switch is installed in accessible location near or on unit. Pass

**Comment:**

Verify overcurrent protection is HACR type, installed and sized correctly and labeled in panel.

Pass

**Comment:**

Maintenance electrical outlet is installed and functional.

Pass

**Comment:**

Main distribution panel is labeled correctly.

Pass

**Comment:**

Unit ground wire is secured.

Pass

**Comment:**

Additional Comments:

**Comment:**



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 02 EXHAUST FANS INSPECTIONS **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB  
**Completed Date :** 08/09/2023 - Jordan Best - National TAB

### CheckList Item Details

Fan rotation is correct

Pass

**Comment:**

Pulleys are aligned and belts are tensioned properly

**Comment:**

NA

Speed controller installed and functional (direct drive)

**Comment:**

NA

Fan is secured to the curb

**Comment:**

Back draft damper is installed and functional

Pass

**Comment:**

No exterior damage to the fan

Pass

**Comment:**

No unusual noise or vibration

Pass

**Comment:**

Controls are functional

N/A

**Comment:**

Additional Comments:

**Comment:**

Fans are not equipped with speed controller so they are either on or off. EF-2 was cross ducted into a supply duct. Notified GC,



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 03 START-UP CONTROLS PROGRAMMING **Status :** Not Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

Programming: SE 3.3, 3.4, 4.0

Controller-Network-Address: RTU number + 3

**Comment:**

Controller-Network-FCBusMode = Wired Field Bus

**Comment:**

Controller-Network-BaudRate = Auto

**Comment:**

Controller-Network-Device ID = RTU number + 3

**Comment:**

Details-Occ-OffDurUnocc = No

**Comment:**

Details-Clg-Setup-Clg-En = Yes

**Comment:**

Details-Clg-Setup-ClgAdapTunEn = Yes

**Comment:**

Details-Htg-Setup-Htg-En = Yes

**Comment:**

Details-Htg-Setup-#HtgStgs = 2 Stages

**Comment:**

Details-Htg-Setup-HtgAdapTunEn = Yes

**Comment:**

Details-Htg-Setup-#GasVlvs = 1 (Set to 0 for Hp and Elect Heat)

**Comment:**

Details-Fan-Setup-Fan Ctl-Type = No VFD select "Single Speed", W/VFD select "Fixed Variable"

**Comment:**

Details-Fan-Setup-FanOnOcc = Yes

**Comment:**

Details-Fan-Setup-FanOnDlyHeat = 30s (Set to 0 for HP or Electric Heat)

**Comment:**

Details-Fan-Setup-FanOnly-%Cmd = 50%

**Comment:**

Details-Fan-Setup-1ClgStg-%Cmd = 70%

**Comment:**

Details-Fan-Setup-2Clgstg-%Cmd = 100% (2stage Unit) or 80% (3 and 4 stage)

**Comment:**

Details-Fan-Setup-3ClStg-%Cmd = 100% (3 stage unit) or 90% (4 stage)

**Comment:**

Details-Fan-Setup-4ClStg-%Cmd = 100% (4 Stage unit)

**Comment:**

Details-Fan-Setup-1HtgStg-%Cmd = 100%

**Comment:**

Details-Fan-Setup-2HtgStg-%Cmd = 100%

**Comment:**

Details-Econ-Setup-Econ-En = Yes

**Comment:**

Details-Econ-Setup-Econ-MinPos = Set to minimum outside air requirements.

**Comment:**

Details-Econ-Setup-LowSpdFan-MinPos = Set minimum 1% above EconMinPos

**Comment:**

Details-Econ-Setup-FreeClg-Sel = Single Enthalpy

**Comment:**

Details-Econ-Setup-EconOAEnth-Sp 4= 24 Btu/lb

**Comment:**

Details-Econ-Setup-Dvent-Mode = Enable

**Comment:**

Details-Econ-Setup-DventMaxEconPos = 50%

**Comment:**

Details-Econ-Setup-DventIAP-Sp = 1000

**Comment:**

Details-Econ-Setup-EconFltDetectEn = Enable

**Comment:**

Additional Comments:

**Comment:**

**Non ZR Units only:**

Details-HGR-Setup-HGR-En = No

**Comment:**

Details-HGR-Setup-HGRAIt-En = No

**Comment:**

Details - HGR-Setup-HGRUnocc-En = No

**Comment:**

Details-HGR-Setup-Mode = No

**Comment:**

Additional Comments:

**Comment:**

**ZR Units - Reheat Units only:**

Details-HGR-Setup-HGR-En = Yes

**Comment:**

Details-HGR-Setup-HGRAIt-En = Yes

**Comment:**

Details - HGR-Setup-HGRUnocc-En = Yes

**Comment:**

---

Details-HGR-Setup-Mode = No

---

**Comment:**

---

Additional Comments:

---

**Comment:**

---



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 04 EMS/SENSOR VALIDATION      **Status :** Not Completed  
**Assigned Organization :** National TAB      **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

RTU supply air temp sensor location located per start-up binder.

**Comment:**

RTU return air temp sensor location located per start-up binder.

**Comment:**

RTU return air smoke detector (when applicable) is located per start-up binder.

**Comment:**

Space temperature sensor has been replaced and location meets requirements.

**Comment:**

Space humidity sensor has been replaced and location meets requirements.

**Comment:**

Unit is being controlled by a space temperature sensor or thermostat

**Comment:**

EMS has been connected and validated with TOC or Gridpoint. Screen shot is available.

**Comment:**

---

No splicing of EMS/Sensor/Thermostat wiring is visible

**Comment:**

---

(If Applicable) 2 Stage Thermostat to SE Board Control Wiring meets detail in start-up binder.

**Comment:**

---

(If Applicable) 2 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.

**Comment:**

---

(If Applicable) 4 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.

**Comment:**

---

(If Applicable) 3 Stage Thermostat wiring meets detail in start-up binder.

**Comment:**

---

(If Applicable) 3 Stage Thermostat with Humidity sensor wiring meets detail in start-up binder.

**Comment:**

---

(If Applicable) EH Thermostat with SCR control wiring meets detail in start-up binder.

**Comment:**

---

Temperature setpoints are set for correction region and space (see ASHRAE / temperature setpoint chart in procedure)

**Comment:**

---

Additional Comments:

**Comment:**

---



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 05 TAB CHECKLIST **Status :** Not Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

Outside air damper set to minimum air flow requirement and damper position marked. Pass

**Comment:**

Total Supply, return, and outside air volumes meet design tolerances (+/-10%)

**Comment:**

Enclosed area diffusers (Pharmacies, manager office, employee room, restrooms, electrical rooms) balanced within +/-10%?

**Comment:**

Open area diffusers (Sales floor and stock room) balanced within +/-25% of design?

**Comment:**

Store pressure meets tolerances (see formula in balance schedule). Make sure to account for existing exhaust fans airflows as shown on original drawings that are non-functioning.

**Comment:**

Outside air and return air dampers modulate freely. Pass

**Comment:**

Start-up report from the installing contractor is reviewed and all information if filled out. All required measurements are within typical ranges.

**Comment:**

---

(If Applicable) VFD is set-up and operational. (N/A = not applicable)

---

**Comment:**

YES

---

Verify amp draw of motor is within unit specification, not operating in overramped condition. Pass

---

**Comment:**

---

Sales floor temperature and humidity measurement

---

**Comment:**

NA

---

Pharmacy temperature and humidity measurement

---

**Comment:**

NA

---

Stock Room temperature and humidity measurement

---

**Comment:**

NA

---

Outdoor air temperature and humidity measurement

---

**Comment:**

NA

---

Additional Comments:

---

**Comment:**

---



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 06 FUNCTIONAL TESTS      **Status :** Not Completed

**Assigned Organization :** National TAB      **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

#### Cooling Functional Test

Overwrite the thermostat or sensor to put the unit into cooling mode.      Pass

**Comment:**

Compressors enable.      Pass

**Comment:**

If fan has VFD, the fan increases speed.      Pass

**Comment:**

Document the discharge air temperature.

**Comment:**

NA

After 10 minutes, Discharge air temperature is below 55 degrees.      N/A

**Comment:**

Cooling mode is operational      Pass

**Comment:**

Additional Comments:

**Comment:**

---

**Heating Functional Test**

---

Overwrite the thermostat or sensor to put the unit into heating mode.

Pass

**Comment:**

---

Heat exchanger enables.

Pass

**Comment:**

---

If fan has VFD, the fan increases speed.

Pass

**Comment:**

---

Document the discharge air temperature.

**Comment:**

NA

---

After 10 minutes, Discharge air temperature is above 85 degrees.

N/A

**Comment:**

---

Heating mode is operational

Pass

**Comment:**

---

Additional Comments

**Comment:**

---

**Dehumidification Functional Test**

---

Overwrite the humidistat to put the unit into dehumidification mode.

**Comment:**

---

Compressors enable.

**Comment:**

Hot Gas Reheat Valve opens

**Comment:**

If fan has VFD, the fan increases speed.

**Comment:**

Document the discharge air temperature.

**Comment:**

Dehumidification Mode is operational. (Pass/Fail/NA)

**Comment:**

Additional Comments:

**Comment:**

**Economizer Functional Test**

Overwrite the humidistat to put the unit into economizer mode.

**Comment:**

Economizer modulates from minimum position to 100% open. (Pass/Fail/NA)

**Comment:**

Additional Comments:

**Comment:**



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 07 TEMPERATURE SETPOINTS      **Status :** Not Completed  
**Assigned Organization :** National TAB      **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

Temperature setpoints must be set using provided charts are based on state and space that each RTU serves. Confirm with controls company that these are set correctly

**Comment:**



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - 08 ENTRANCE HEATERS      **Status :** Not Completed  
**Assigned Organization :** National TAB      **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

Sensor is located within 15' of entrance area

**Comment:**

Confirm proper operation of entrance heater and associated controls

**Comment:**

Balance supply air quantity to manufacturer recommended supply airflow.

**Comment:**

Confirm listed temperature rise and discharge air temperature based on approved BOM/submittal

**Comment:**



## 08-07-23 WALGREENS #4721 - PUEBLO, CO

### CheckList Information

**Name :** TECH - SITE PICTURES **Status :** Not Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 08/03/2023 - Brianna Biggs - National TAB

### CheckList Item Details

STORE FRONT

**Comment:**

RTU-1

Yes

**Comment:**



IMG\_1269  
08/09/2023

RTU-2

Yes

**Comment:**



**IMG\_1270**  
**08/09/2023**

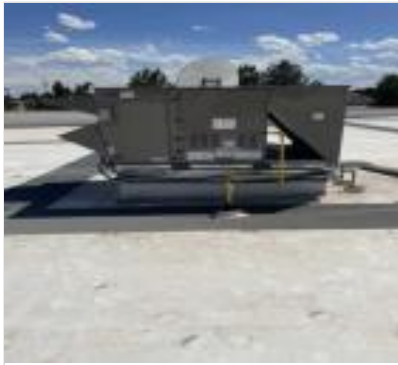
---

RTU-3

Yes

---

**Comment:**



**IMG\_1271**  
**08/09/2023**

---

RTU-4

Yes

---

**Comment:**



IMG\_1272  
08/09/2023

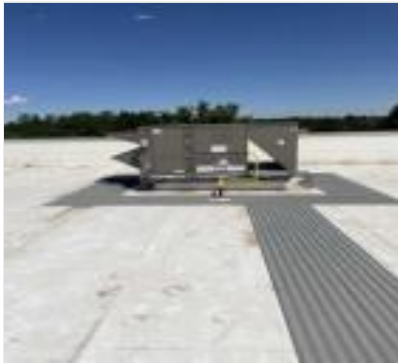
---

RTU-5

Yes

Comment:

---



IMG\_1273  
08/09/2023

---

RTU-6

Yes

Comment:

---



IMG\_1274  
08/09/2023

---

EF-1

**Comment:**

---

EF-2

**Comment:**

---

EF-3

**Comment:**

---

EF-4

**Comment:**

---

EF-5

**Comment:**

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