

Report By:

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



**Report: PRELIM**

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

**Date: 10/09/2023**

# PROJECT

## Papa Johns (Sussex, WI)

W249 N5245 EXECUTIVE DR.

Sussex, WI 53089

### Client

Air Temperature Services

5301 Voges Road

Madison , WI 53718

# National TAB

Project: Papa Johns (Sussex, WI)

System/Unit: AHU/RTU



Asset: RTU-1

AREA:101

Unit Data		
	Design	Actual
MFG	NA	TRANE
Serial Num	-	233712590L
Model Num	NA	YSC060G3RHB2F0
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	27X11
Num PreFilter 1	-	2
PreFilter Size 1	-	20X35X2

Test Data		
	Design	Actual
SF CFM	2000	2021
SF RPM	-	956
RA CFM	1800	1811
OA CFM	200	210
RL Voltage	208	212
RL Amperage	-	4.6
OA Damper Position	-	0.75" POSTION MARKED
Brake Horse Power	2.4	0.66

Motor Data		
	Design	Actual
Motor MFG	-	U.S. MOTORS
Frame	-	NL
Horsepower	-	1.0
Motor Rpm	-	NL
Phase	-	1
Rated Voltage	-	208
Rated Amperage	-	6.90
Service Factor	-	NL

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.38"
Fan Suction SP	-	-0.55"
Fan Discharge SP	-	0.48"
Total ESP	0.80	0.86"
Fan Total SP	-	1.03"

Drive Data		
	Design	Actual
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	SPEED TAP 4
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

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# National TAB

Project: Papa Johns (Sussex, WI)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-1/101

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
1-1	106	S-4	6	50	121	55	110.0
1-2	105	S-3	10	390	408	407	104.4
1-3	103	S-3	10	390	395	428	109.7
1-4	101	S-2	10	390	242	376	96.4
1-5	102	S-2	10	390	409	363	93.1
1-6	101	S-2	10	390	323	392	100.5
Total				2000	1898	2021	101.05%

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# National TAB

Project: Papa Johns (Sussex, WI)

## System/Unit: AHU/RTU



Asset: RTU-2

AREA:H-1 101

Unit Data		
	Design	Actual
MFG	NA	CARRIER
Serial Num	-	4916C83817
Model Num	NA	48TCEA06A2A5A0A0A0
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	28X14
Num PreFilter 1	-	2
PreFilter Size 1	-	16X25X2

Motor Data		
	Design	Actual
Motor MFG	-	MARATHON
Frame	-	56Y
Horsepower	-	1.5
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	-	208-230
Rated Amperage	-	5.2
Service Factor	-	1.15

Drive Data		
	Design	Actual
Motor Sheave Size	-	4"
Motor Bore Size	-	5/8"
Motor Sheave SetPt	-	2 TURNS OPEN
Fan Sheave Size	-	AFD44 (4.25")
Fan Sheave Bore	-	5/8"
Belt CL Distance	-	14.25"
Num of Belts	-	1
Belt Size	-	A38

Test Data		
	Design	Actual
SF CFM	2000	2018
SF RPM	-	1268
RA CFM	1780	1784
OA CFM	220	234
RL Voltage	208	212/212/212
RL Amperage	-	3.5/3.5/3.6
OA Damper Position	-	0.75" POSITION MARKED
Brake Horse Power	2.4	1.02

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.56"
Fan Suction SP	-	-0.89"
Fan Discharge SP	-	0.29"
Total ESP	0.50	0.85"
Fan Total SP	-	1.18"

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Notes:

RTU DESIGN IS 2000 CFM

DIFFUSER TOTAL IS 2500 CFM

[1] RTU IS EXISTING 5 TON UNIT. BALANCED TO 400 CFM/TON FOR PERFORMANCE AND EFFICIENCY (2000 CFM). BALANCED HOOD ACPSP TO DESIGN, 500 CFM, PROPORTIONALLY REDUCED ALL OTHER DIFFUSERS.

[2] ECONOMIZER IS OPERATIONAL, BUT GETS STUCK IN POSITION. POTENTIOMETER BUSTED. RECOMMEND SERVICE.

Written By: Michael McDonnell on 10/09/2023

# National TAB

Project: Papa Johns (Sussex, WI)

## AHU/RTU



### Diffuser Supply (GRD)

#### RTU-2/H-1 101

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	FINAL CFM	% to design
2-1	HD	ACPSP	6"X144"	500	4.68	459	512	102.4
2-2	101	S-2	10	260				
2-3	101	S-2	10	260				
2-4	100	S-1	12	360				
2-5	100	S-1	12	360				
2-6	101	S-2	10	260				
Total				2000		1965	512	25.6%

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# National TAB

Project: Papa Johns (Sussex, WI)

## System/Unit: FAN - Exhaust



Asset: EF-1

AREA:H-1 101

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU85HFA
Serial Num	-	5950724
Type	CRE UPBLAST	CRE UPBLAST

Test Data		
	Design	Actual
CFM	1500	1581
RL Voltage	-	122
RL Amperage	-	1.9
Total ESP	1.0	0.40"

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	0.75	0.75
Motor Rpm	1251	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	8.9
Service Factor	-	NL

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Notes:

[1] MOTOR SETPOINT: 52% / 1025 RPM

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# National TAB

Project: Papa Johns (Sussex, WI)

## System/Unit: FAN - Exhaust



Asset: EF-2

AREA:RR 106

Unit Data		
	Design	Actual
MFG	NA	BROAN
Model Num	NA	AE80B-B
Serial Num	-	32H16T
Type	CEILING	CEILING

Test Data		
	Design	Actual
CFM	75	69
RL Voltage	-	122
RL Amperage	-	NR
Total ESP	0.25	NR

Motor Data		
	Design	Actual
Motor MFG	-	NL
Frame	-	NL
Horsepower	21W	21W
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.3
Service Factor	-	NL

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# National TAB

Project: Papa Johns (Sussex, WI)

## System/Unit: FAN - Supply



Asset: MUA-1

AREA:H-1 101

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	A1-D.250-15D-MPU
Serial Num	-	5950724
Type	GAS FIRED	MAU
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	1350	1338
SF RPM	1709	1710
RL Voltage	-	121
RL Amperage	-	6.6
Discharge ESP	-	0.62"
Total ESP	0.500	0.62"
Brake Horse Power	-	0.568

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	1.00	1.0
Motor Rpm	1709	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	11.6
Service Factor	-	NL

Drive Data		
	Design	Actual
Motor Sheave Size	-	DD
Motor Bore Size	-	DD
Motor Sheave SetPt	-	95%
Fan Sheave Size	-	DD
Fan Sheave Bore	-	DD
Belt CL Distance	-	DD
Num of Belts	-	DD
Belt Size	-	DD

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Notes:

[1] MAU HEATER WAS TESTED AND IS FUNCTIONAL. UNABLE TO TEST COOLING, AS UNIT HAD NOT YET BEEN FULLY STARTED UP.

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# National TAB

Project: Papa Johns (Sussex, WI)



## System/Unit: Kitchen Hood Type I

Asset: H-1

AREA:101

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	7824 ND-2WI-PO-ACPSP-F
Job / Serial Num	-	5950724
Type	TYPE I CANOPY	TYPE I ISLAND
Hood length	132	132
Hood Width	78	78
Supply Plenum Type	-	ACPSP
Supply Plenum Width	12	12
Supply Plenum Length	144	144

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	8	8
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	12.96	12.96
Filter1 FPM	-	123
Filter2 FPM	-	128
Filter3 FPM	-	121
Filter4 FPM	-	128
Filter5 FPM	-	129
Filter6 FPM	-	123
Filter7 FPM	-	115
Filter8 FPM	-	109
Filter Ave FPM(corr)	-	122
CFM	1500	1581

Cooking Equipment		
	Design	Actual
Item 1	-	PIZZA OVEN

Test Data Supply		
	Design	Actual
Total AK Area	-	12
Kv factor (Vel)	-	0.87
Num of Readings	-	10
Reading1 FPM	-	161
Reading2 FPM	-	120
Reading3 FPM	-	104
Reading4 FPM	-	119
Reading5 FPM	-	90
Reading6 FPM	-	122
Reading7 FPM	-	133
Reading8 FPM	-	131
Reading9 FPM	-	134
Reading10 FPM	-	168
Ave FPM(corr)	-	111.53
CFM	1350	1338

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Notes:  
 EXHAUST DESIGN IS 1500 CFM  
 MUA DESIGN IS 1350 CFM  
 AC DESIGN IS 500 CFM  
 TOTAL SUPPLY DESIGN IS 1850 CFM

[1] HOOD HAS SEVERAL ALARMS DUE TO CORE FIRE SYSTEM NOT YET INSTALLED OR OPERATIONAL.  
 [2] COOKING EQUIPMENT NOT YET ON SITE AT TIME OF BALANCE.

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