

Report By:

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



Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 06/13/2025
Completed By: National TAB

PROJECT
Diversey (Florence, KY)

7900 Foundation Dr

Florence, KY 41042

Client

Thomas J. Dyer Company
5240 Lester Road
Cincinnati, OH 45213

National TAB

Project: Diversey (Florence, KY)

Table Of Contents

Section	Page #
Certification	3
Equipment Calibrations	4
Abbreviations	5
GRD	6
AHU/RTU	7
FAN - Exhaust	9



CERTIFICATION



PROJECT: Diversey (Florence, KY)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems*. Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB

REGISTRATION NO: 3629

CERTIFIED BY: Joe Hertenstein

DATE: 6/13/2025

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB

REGISTRATION NO: 3629


CERTIFIED BY: Joe Hertenstein

DATE: _____

Submitted and Certified by:

NEBB TAB FIRM: National TAB

TAB PROFESSIONAL: Joe Hertenstein

SIGNATURE: 

REGISTRATION NO: 3629

CERTIFICATION EXP: 12/31/2025





National TAB



Testing, Adjusting, and Balancing Equipment

INTELLIGENCE

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	7/12/2024	7/12/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	7/12/2024	7/12/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	7/12/2024	7/12/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	SHIMPO DT-207LR S/N: D1530081R	7/12/2024	7/12/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025



Abbreviation List

A = Area (ft ²)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A _k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T _{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T _{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T _{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO ₂ = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C _v = Flow Constant	K _v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T _{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% _{ra} = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

0.5

22" EXHAUST DUCT
UP TO RELOCATED
EF-PO-11

3000
CFM

EXISTING
DUCTWORK TO
REMAIN.

3000
CFM

24"x24" EXHAUST DUCT UP
TO RELOCATED EF-PO-12.
TERMINATE BELOW ROOF.

SG-1
24"x10"
1,000 CFM

1-2

SG-1
24"x10"
1,000 CFM

1-3

SG-1
24"x10"
1,000 CFM

1-4

FD-2

22" ø

18" ø

14" ø

27"x53"
UP TO AHU-1.1

18" ø

1-1

1-5

18" ø DUCT DOWN.
SEE FIRST FLOOR
PLAN FOR
CONTINUATION

4
HV-DWG-8307

0.5

② HVAC MEZZANINE PLAN
1/8" = 1'-0"

National TAB

Project: Diversey (Florence, KY)

System/Unit: AHU/RTU



Asset: AHU-1.1

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Serial Num	-	26052167
Model Num	NA	RV-45-25I-N-E2
Configuration	-	VERTICAL
Num PreFilter 1	-	3
PreFilter Size 1	-	16X20X2
Num PreFilter 2	-	6
PreFilter Size 2	-	20X20X2

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	184T
Horsepower	5.0	5
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	230
Rated Amperage	-	13.2
Service Factor	-	1.15

Test Data		
	Design	Actual
SF CFM	6000	6338
SF RPM	-	1604
OA CFM	6000	6338
RL Voltage	460	417 VFD
RL Amperage	-	6.1 VFD
VFD Max SetPt	-	55hz
SF System SetPt	-	91.7%
OA Damper Position	-	100%
Brake Horse Power	-	4.58

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.51"
Fan Suction SP	-	-1.29"
Fan Discharge SP	-	0.83"
Total ESP	2.0	1.34"
Fan Total SP	2.952	2.12"
Pre-Filter P.D.	-	0.78"

Completed By: Aaron Cosby on 06/05/2025

Notes:

4 OA FILTERS 23X23

*PREFILTER AND COOLING COIL DROP COMBINED.

Written By: Gabe Merk on 06/05/2025

National TAB

Project:Diversey (Florence, KY)

AHU/RTU



Diffuser Supply (GRD)

AHU-1.1/MEZZANINE

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	FLOOR 1		18	1500	1606	1606	107.1
SGRD2	MEZZANINE	SG-1	24X10	1000	1019	1019	101.9
SGRD3	MEZZANINE	SG-1	24X10	1000	1089	1089	108.9
SGRD4	MEZZANINE	SG-1	24X10	1000	1039	1039	103.9
SGRD5	FLOOR 1		18	1500	1585	1585	105.7
Total				6000	6338	6338	105.63%

National TAB

Project: Diversey (Florence, KY)

System/Unit: FAN - Exhaust



Asset: EF-PO-11

AREA:

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-180-10-V6
Serial Num	-	19469521
Type	-	UPBLAST

Test Data		
	Design	Actual
CFM	3000	2757
Fan RPM	-	NA
RL Voltage	-	161
RL Amperage	-	2.2
Suction ESP	-	-0.33"
Discharge ESP	-	ATM
Total ESP	-	0.33"
Brake Horse Power	-	0.92

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	143T
Horsepower	-	1
Motor Rpm	-	1800
Phase	-	3
Voltage (rated)	-	230
Amperage (rated)	-	2.4
Service Factor	-	1

Completed By: Aaron Cosby on 06/05/2025

Notes:
VOLTAGE AND AMPERAGE TAKEN FROM 3 PHASE WIRING FROM CONTROLLER TO THE MOTOR.

Written By: Gabe Merk on 06/05/2025

National TAB

Project: Diversey (Florence, KY)

FAN - Exhaust



Diffuser Ret/Exh (GRD)

EF-PO-11/

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EF-PO-11-EGRD4	MEZZANINE	EG	10"	1000	1	969	969	927	92.7
EF-PO-11-EGRD5	MEZZANINE	EG	10"	1000	1	1021	1021	917	91.7
EF-PO-11-EGRD6	MEZZANINE	EG	10"	1000	1	864	864	913	91.3
Total				3000		2854	2854	2757	91.9%

National TAB

Project: Diversey (Florence, KY)

System/Unit: FAN - Exhaust



Asset: EF-PO-12

AREA:

Unit Data		
	Design	Actual
MFG	NA	GREENHECK
Model Num	NA	CUE-180-10-V6
Serial Num	-	19469519
Type	-	UPBLAST

Motor Data		
	Design	Actual
Motor MFG	-	BALDOR
Frame	-	143T
Horsepower	-	1
Motor Rpm	-	1800
Phase	-	3
Voltage (rated)	-	230
Amperage (rated)	-	2.4
Service Factor	-	1

Test Data		
	Design	Actual
CFM	-	4173[1]
Fan RPM	-	INACCESSIBLE
RL Voltage	-	158/158/158
RL Amperage	-	2.0/2.0/2.0
Suction ESP	-	-0.11"
Discharge ESP	-	ATM
Total ESP	-	0.11"
Brake Horse Power	-	0.83

Completed By: Aaron Cosby on 06/05/2025

Notes:

VOLTAGE AND AMPERAGE TAKEN FROM 3 PHASE WIRING FROM CONTROLLER TO THE MOTOR.

[1] DUE TO DUCTWORK BEING OUT OF REACH THERE WAS NO WAY TO DIRECTLY READ AIRFLOW TO THE FAN. CFM DERIVED BY USING PERFORMANCE DATA AND COMPARING TO THE FAN CURVE SUPPLIED BY THE MANUFACTURER.

Written By: Gabe Merk on 06/05/2025