Report By:

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

Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 09/09/2025

Completed By: National TAB

PROJECT

IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

6275 WEST PLANO PARKWAY SUITE 275

PLANO, TX 75093

Client

Billingsley

ONE ART PLAZA

1722 ROUTH ST SUITE 1313

DALLAS, TX 75201

National TAB

Project: IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

Table Of Contents

Section	Page #
Certification	3
Equipment Calibrations	4
Abbreviations	5
GRD	6
VAV-Fan Powered Box	7
VAV - Single Duct	11
FAN - Exhaust	16

CERTIFICATION

PROJECT: IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

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-Southeast
REGISTRATION NO: 3755
CERTIFIED BY: J. Scott Springer 23312
DATE: 9/9/2025

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-Southeast
REGISTRATION NO: 3755
CERTIFIED BY: J. Scott Springer 23312
DATE:

Submitted and Certified by:

NEBB TAB FIRM: National TAB-Southeast
TAB PROFESSIONAL: J. Scott Springer
SIGNATURE:
REGISTRATION NO: 3755 (NTAB) / 23312
CERTIFICATION EXP: 12/31/2025

National TAB

Testing, Adjusting, and Balancing Equipment

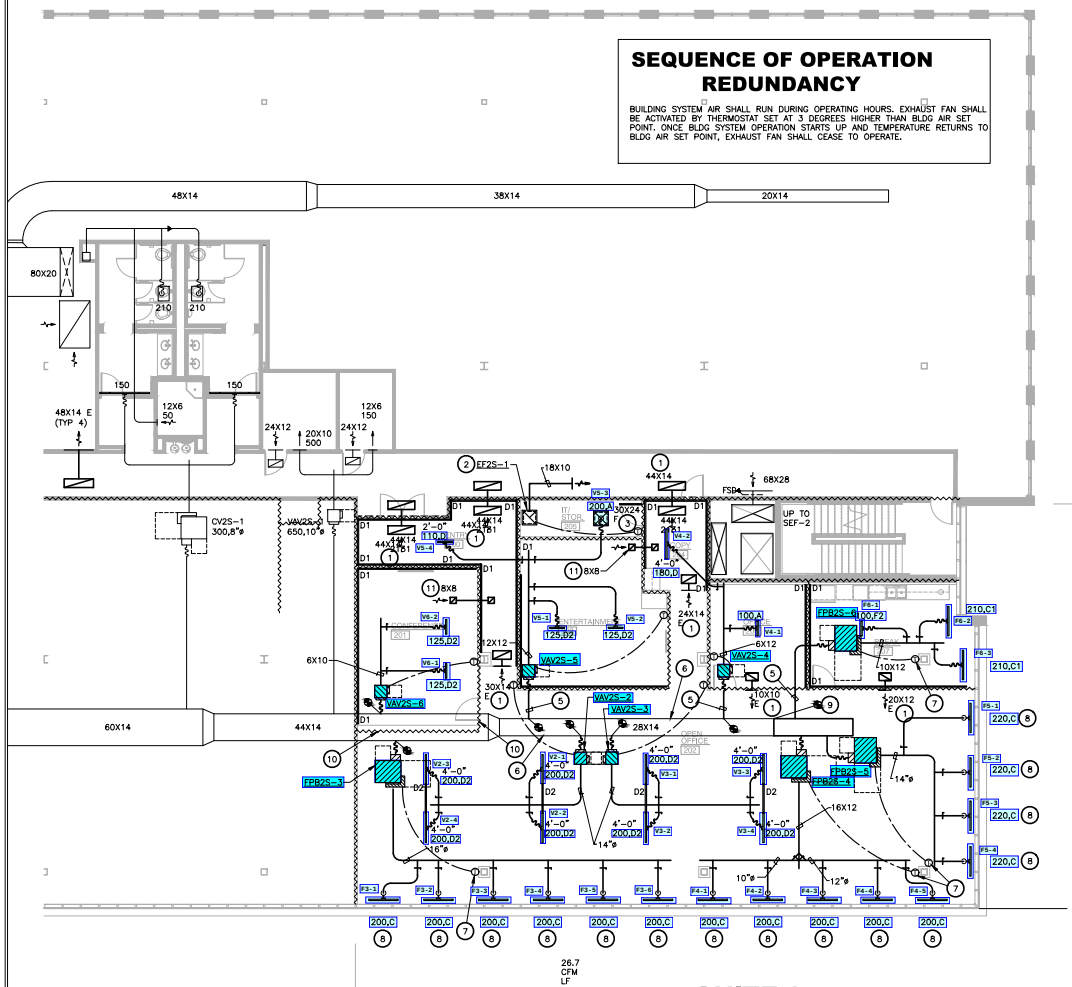
Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 3 % +/- 7 cfm	Shortridge Flow Hood	10/15/2024	10/15/2025
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	10/15/2024	10/15/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	10/15/2024	10/15/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	10/15/2024	10/15/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 090315046	10/15/2024	10/15/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Dwyer TAC-L - S/N S1100123	10/15/2024	10/15/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Shortridge HDM 250 - S/N W25059	6/18/2025	6/18/2026
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Shortridge HDM 250 - S/N W25059	6/18/2025	6/18/2026
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	3/7/2025	3/7/2026

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
CO2 = 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

SEQUENCE OF OPERATION REDUNDANCY

BUILDING SYSTEM AIR SHALL RUN DURING OPERATING HOURS. EXHAUST FAN SHALL BE ACTIVATED BY THERMOSTAT SET AT 3 DEGREES HIGHER THAN BLDG AIR SET POINT. ONCE BLDG SYSTEM OPERATION STARTS UP AND TEMPERATURE RETURNS TO BLDG AIR SET POINT, EXHAUST FAN SHALL CEASE TO OPERATE.



1 LEVEL 02 MECHANICAL PLAN
SCALE: 1/4"=1'-0"

NOTES BY SYMBOL ⓧ:

1. PROVIDE ACOUSTICALLY LINED RETURN AIR BOOT THRU WALL TO DECK AS HIGH AS POSSIBLE ABOVE CEILING WITH INLET ELBOW AND OUTLET 90° ELBOW FACING UPWARD. SIZE PER PLANS. REFER TO DETAIL SHEET M0.01 FOR MORE INFORMATION.
2. EXHAUST FAN TO BE INSTALLED AT CEILING AND SUSPENDED FROM STRUCTURE WITH ISOLATION SPRINGS AND CONTROLLED BY THERMOSTAT SET A 75°. EXTEND VENTILATION DUCT AS SHOWN ON DRAWINGS.
3. TRANSFER DOOR GRILLE TO BE INSTALLED IN LOWER HALF OF DOOR PRIMED AND READY FOR PAINTING BY OTHERS. COORDINATE INSTALLATION OF GRILLE WITH GENERAL CONTRACTOR.
4. INSTALL EXPANDED TAP AT LOCATION INDICATED. REFER TO DETAIL ON SHEET M0.01 FOR ADDITIONAL INFORMATION.
5. ALL EXPOSED ROUND DUCTWORK SHALL BE INTERNALLY LINED SPIRAL DUCT, MOUNTED AT TO MAINTAIN BOTTOM OF DUCT AT SAME LEVEL AS ADJACENT LIGHTING FIXTURES. PROVIDE INTERNAL LINING WITH MICROBIOLOGICAL TREATMENT.
6. EXPOSED RECTANGULAR SUPPLY DUCT SHALL HAVE 2" THICK FLEXIBLE FIBERGLASS WITH FOIL WITH A VAPOR BARRIER WITH ALUMINUM WRAP OVER INSULATION OR PROVIDE INTERNAL LINING WITH MICROBIOLOGICAL TREATMENT.
7. PROVIDE INSULATION PAD TO BE INSTALLED BETWEEN THERMOSTAT AND PERIMETER WALL FOR THERMOSTATS MOUNTED ON EXTERIOR COLUMN/WALLS.
8. NEW SLOT DIFFUSER TO BE SUPPORTED TO HARD ROUND DUCT AT WALL PRIMED AND READY FOR PAINTING. COORDINATE PLACEMENT WITH SHADE POCKET.
9. EXTEND EXISTING MEDIUM PRESSURE DUCT USING SAME METHODS AND MATERIALS TO MATCH EXISTING AND WRAP DUCT AS SHOWN ON DETAIL SHEET M3.01.
10. WALL TO DECK SHALL BE SEALED AT BOTTOM OF MEDIUM PRESSURE DUCT AND AROUND ALL EXISTING MEDIUM PRESSURE DUCT LOCATED AT WALLS TO DECK.
11. PROVIDE ACOUSTICALLY LINED RETURN AIR BOOT THRU WALL TO DECK AS HIGH AS POSSIBLE ABOVE CEILING WITH INLET ELBOW AND OUTLET 90° ELBOW FACING UPWARD. SIZE PER PLANS. REFER TO DETAIL SHEET M0.01 FOR MORE INFORMATION.

REFER TO SHEET M0.01 FOR GENERAL NOTES, SCHEDULES AND SYMBOLS.

NORTH

INTERIOR DESIGNER/ ARCHITECT
idGROUP
2641 IRVING BLVD.
DALLAS, TEXAS 75207
TEL: 214-638-6800

ENGINEER
Purdy - McGuire
Mechanical • Electrical Engineers
17360 North Dallas Parkway
Suite 3000
Dallas, Texas 75248-1147
Firm Registration # F-1511
Tel 972/233-2357
Fax 972/248-8231
www.purdy-mcguire.com
PMI JOB NO. 25014.001
PROJECT MGR. TODD JOHNSON

SEAL

PROJECT NUMBER:	850-212
DRAWN BY:	MB
CHECKED BY:	BH/CB
R.S.F.:	4,952

BILLINGSLEY COMPANY

6275 WEST PLANO PARKWAY
MUTUAL OF OMAHA

6275 WEST PLANO PARKWAY
SUITE # 275
PLANO, TX 75093

NO.	REVISIONS:	DATE:

CLIENT/LANDLORD ISSUE DATE:	02/26/2025
BID ISSUE DATE:	03/05/2025
PERMIT ISSUE DATE:	03/05/2025

DRAWING TITLE:
LEVEL 02
MECHANICAL PLAN

DRAWING NUMBER:
M2.02

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV-Fan Powered Box

VAVs/

Asset										
Asset Name	**Service**	**Type**	**Inlet Size**	**Design Max Cool CFM**	**Max Cool CFM**	**Design Min Heat CFM**	**Min Heat CFM**	**Design Fan CFM (Heat)**	**Fan CFM (Heat)**	**Ak (max)**
FPB2S-3	FPB2S-3	PARALLEL	12	1200	1209	300	308	840	855	1801

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

FPB2S-3/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	202	C	10	200	221	195	97.5
SGRD2	202	C	10	200	228	199	99.5
SGRD3	202	C	10	200	282	200	100.0
SGRD4	202	C	10	200	288	205	102.5
SGRD5	202	C	10	200	276	205	102.5
SGRD6	202	C	10	200	49	205	102.5
Total				1200	1344	1209	100.75%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV-Fan Powered Box

VAVs/

Asset										
Asset Name	**Service**	**Type**	**Inlet Size**	**Design Max Cool CFM**	**Max Cool CFM**	**Design Min Heat CFM**	**Min Heat CFM**	**Design Fan CFM (Heat)**	**Fan CFM (Heat)**	**Ak (max)**
FPB2S-4	FPB2S-4	PARALLEL	12	1000	1021	250	254	700	715	1635

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

FPB2S-4/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	202	C	10	200	257	190	95.0
SGRD2	202	C	10	200	210	210	105.0
SGRD3	202	C	10	200	233	219	109.5
SGRD4	202	C	10	200	246	209	104.5
SGRD5	202	C	10	200	230	193	96.5
Total				1000	1176	1021	102.1%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV-Fan Powered Box

VAVs/

Asset										
Asset Name	**Service**	**Type**	**Inlet Size**	**Design Max Cool CFM**	**Max Cool CFM**	**Design Min Heat CFM**	**Min Heat CFM**	**Design Fan CFM (Heat)**	**Fan CFM (Heat)**	**Ak (max)**
FPB2S-5	FPB2S-5	PARALLEL	10	880	866	220	218	616	606	1281

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

FPB2S-5/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	202	C	10	220	250	220	100.0
SGRD2	202	C	10	220	261	220	100.0
SGRD3	202	C	10	220	241	205	93.2
SGRD4	202	C	10	220	297	221	100.5
Total				880	1049	866	98.41%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV-Fan Powered Box

VAVs/

Asset										
Asset Name	**Service**	**Type**	**Inlet Size**	**Design Max Cool CFM**	**Max Cool CFM**	**Design Min Heat CFM**	**Min Heat CFM**	**Design Fan CFM (Heat)**	**Fan CFM (Heat)**	**Ak (max)**
FPB2S-6	FPB2S-6	PARALLEL	8	520	515	130	131	364	364	707

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

FPB2S-6/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	207	F2	8	100	30	96	96.0
SGRD2	207	C1	10	210	206	205	97.6
SGRD3	207	C1	10	210	230	214	101.9
Total				520	466	515	99.04%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV - Single Duct

VAVs/

Asset								
Asset Name	**Design Service**	**Service**	**Inlet Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Ak (max)**
VAV2S-2	ADDRESS	VAV2S-2	10	800	830	160	158	1307

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

VAV2S-2/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	202	D2	10	200	193	189	94.5
SGRD2	202	D2	10	200	214	218	109.0
SGRD3	202	D2	10	200	219	219	109.5
SGRD4	202	D2	10	200	220	204	102.0
Total				800	846	830	103.75%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV - Single Duct

VAVs/

Asset								
Asset Name	**Design Service**	**Service**	**Inlet Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Ak (max)**
VAV2S-3	ADDRESS	VAV2S-3	10	800	828	160	156	1240

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

VAV2S-3/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	202	D2	10	200	310	206	103.0
SGRD2	202	D2	10	200	83	206	103.0
SGRD3	202	D2	10	200	319	211	105.5
SGRD4	202	D2	10	200	262	205	102.5
Total				800	974	828	103.5%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV - Single Duct

VAVs/

Asset								
Asset Name	**Design Service**	**Service**	**Inlet Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Ak (max)**
VAV2S-4	ADDRESS	VAV2S-4	8	280	268	56	53	821

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

VAV2S-4/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	206	A	8	100	235	101	101.0
SGRD2	204	D	10	180	33	167	92.8
Total				280	268	268	95.71%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV - Single Duct

VAVs/

Asset								
Asset Name	**Design Service**	**Service**	**Inlet Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Ak (max)**
VAV2S-5	ADDRESS	VAV2S-5	8	560	560	112	110	878

Completed By: Bayley Morvant on 09/08/2025

Diffuser Supply (GRD)

VAV2S-5/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	203	D2	8	125	113	131	104.8
SGRD2	203	D2	8	125	166	117	93.6
SGRD3	205	A	8	200	216	209	104.5
SGRD4	200	D	8	110	82	103	93.6
Total				560	577	560	100%

National TAB

Project:IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

VAV - Single Duct

VAVs/

Asset								
Asset Name	**Design Service**	**Service**	**Inlet Size**	**Design Max CFM**	**Max CFM**	**Design Min CFM**	**Min CFM**	**Ak (max)**
VAV2S-6	ADDRESS	VAV2S-6	6	250	244	50	86	618

Completed By: Bayley Morvant on 09/08/2025

Asset	Notes	Date	Written By
VAV2S-6	[1] VAV DAMPER FULLY CLOSED WHEN TESTING DESIGN MINIMUM CFM.	09/08/2025	Bayley Morvant

Diffuser Supply (GRD)

VAV2S-6/

Asset							
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**CFM(1)**	**FINAL CFM**	**% to design**
SGRD1	201	D2	8	125	90	114	91.2
SGRD2	201	D2	8	125	96	130	104.0
Total				250	186	244	97.6%

National TAB

Project: IBP 6275 - MUTUAL OF OMAHA (PLANO, TX)

System/Unit: FAN - Exhaust

Asset: EF2S-1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	LOREN COOK
Model Num	NA	GEMINI 900
Serial Num	-	615687
Type	CABINET	CABINET

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	48Y
Horsepower	607W	0.5
Motor Rpm	1535	1125
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	6.0

Test Data		
	Design	**Actual**
CFM	1000	1066
RL Voltage	115	121
RL Amperage	6.0	4.0
Suction ESP	-	-0.02
Discharge ESP	-	0.15
Total ESP	0.50	0.17
Brake Horse Power	-	0.33

Completed By: Bayley Morvant on 09/08/2025