Proof CxTAB

CERTIFIED TESTING, ADJUSTING & BALANCING REPORT

Project:	**ProofTech Tower (DEMO Project)**
Location:	**Austin, Texas, USA**
Client:	**XYZ**
Engineer (Consultant):	**ABC**
HVAC Contractor:	**HVAC CO**
TAB Firm:	**TAB FIRM NAME**
Certification #:	**##-####-##**

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

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Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

ABBREVIATIONS LIST

Equipment/Items	
FAHU	Fresh Air Handling Unit
AHU	Air Handling Unit
FCU	Fan Coil Unit
SAF	Supply Air Fan
EXF	Exhaust Air Fan
FAF	Fresh Air Fan
SEF	Smoke Extract Fan
VAV	Variable Air Volume Box
CAV	Constant Air Volume Box
VCD	Volume Control Damper
FD	Fire Damper
GRD	Grill, Register & Diffuser
SAD	Supply Air Duct
RAD	Return Air Duct
EAD	Exhaust Air Duct
SLD	Supply Linear Diffuser
SLD	Return Linear Diffuser
DV	Desk Valve
DRV	Double Regulating Valve
ABV	Automatic Balancing Valve
HEX	Heat Exchanger
CH	Water Chiller
CT	Cooling Tower
CHWP	Chilled Water Pump
C.S	Central Station
D.T	Duct Traverse
TSP	Total Static Pressure
ESP	External Static Pressure

Units	
kW	Kilo Watt
V	Volt
A	Amperage
Hz	Hertz
RPM	Revolutions per Minute
CFM	Cubic Feet per Minute
FPM	Feet Per Minute
PSI	Pound Square Per Inch
ftWG	Feet of Water Gauge
US gpm	US gallon per minute
F	Degree Fahrenheit
TR	Ton Refrigeration
MBH	1000 BTU/hr
Kvs	Regulating Valve Factor

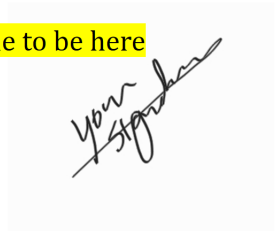
Title Page

CERTIFICATION SHEET

TEST AND BALANCE REPORT
Project Name: ProofTech Tower (DEMO Project)
Project Location: Austin, Texas, USA
Client Name: XYZ
Engineer Name: ABC
Contractor Name: HVAC CO
Certified TAB Firm Name: YOUR TAB FIRM NAME

This is to certify that **(YOUR TAB FIRM NAME)** has balanced the systems described herein to their optimum performance capabilities. The testing and balancing has been performed in accordance with the standard requirements and procedures of the Associated Air Balance Council and the results of these tests are herein recorded.

Associated Air Balance Council Certification Number: ##-####-##
Date: 25/05/2025
Test and Balance Engineer: Your name to be here



Report Summary

REPORT SUMMARY

The scope of our work consists of testing, adjusting, and balancing the following equipment:

1. One Air Handling Unit (AHU-24) with associated air distributions.
2. One Exhaust Air Fan (EXF-D-01) with associated air distributions.
3. Two Fan Coil Units with associated air distributions.
4. Hydronic System: Chiller, circulation pump with associated balancing valaves.
5. Sound measurments
6. Vibration meastuments

Procedures:

1) All HVAC systems were configured to full cooling mode for the purposes of testing, adjusting, and balancing.
2) Associated airflow distributions were measured utilizing a proper insrtuments (direct flow hood or rotating vane anemeometer) and the traversed method for total flow rate at main duct where available.

Results:

1) All systems have been thoroughly tested and balanced within a tolerance of ±10% unless noted, in accordance with applicable international standards.

Air Handling Unit Section

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

AIR HANDLING UNIT

PRE-TAB CHECK LIST

Project: ProofTech Tower (DEMO Project)

Unit Designation	AHU-24	Model Number	PH376
Location	Roof Floor	Serial Number	54321/20/119
Manufacturer	PETRA		

AHU with VFD | Pre-TAB Checklist

Group	Item	Ok	Not Ok	N/A	Comment
Installation	AHU is installed in its final location	☑	☐	☐	
	Installation matches approved shop drawings	☑	☐	☐	
	Access clearance around AHU is adequate	☑	☐	☐	
Ductwork	Supply and return ducts are connected and properly sealed	☑	☐	☐	
	Flexible duct connectors (if required) are installed correctly	☑	☐	☐	
	Grilles/diffusers are installed and matched to layout	☑	☐	☐	
	All dampers are installed, operational and accessible	☑	☐	☐	
Drainage	Drain piping is connected with proper slope and trap	☐	☑	☐	
Filters	Filters are cleaned and installed with correct airflow direction	☑	☐	☐	
Electrical	Power supply connected and isolator/breaker is in place	☑	☐	☐	
	Fan motor rotates in correct direction	☑	☐	☐	
	Electrical panel is closed and labeled	☑	☐	☐	
	VFD installed and powered	☑	☐	☐	
	VFD settings configured per design (min/max Hz, control mode)	☑	☐	☐	
	VFD shows no error or fault codes	☐	☑	☐	
Mechanical	Fan and motor are clean and free to rotate	☑	☐	☐	
	No abnormal vibration or sound when AHU is running	☑	☐	☐	
	Access doors/panels are installed and properly sealed	☑	☐	☐	
	Vibration isolators installed (if applicable)	☐	☐	☑	

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AIR HANDLING UNIT

PRE-TAB CHECK LIST

Project: ProofTech Tower (DEMO Project)

Unit Designation	AHU-24	Model Number	PH376
Location	Roof Floor	Serial Number	54321/20/119
Manufacturer	PETRA		

AHU with VFD | Pre-TAB Checklist

Group	Item	Ok	Not Ok	N/A	Comment
BMS/Controls	Temperature sensors are installed and located per design	☐	☐	☑	
	Differential pressure taps are installed across filters and coil (if any)	☑	☐	☐	
	AHU is integrated with BMS (if applicable)	☐	☐	☑	
	VFD is receiving and responding to control signal from BMS	☑	☐	☐	
Other	Approved shop drawings and Data Sheetl are available on site	☑	☐	☐	
	Start-up checklist completed by contractor/Supplier	☑	☐	☐	
	Internal surfaces and coils are clean and free from construction debris	☑	☐	☐	
	No visible air leakage from AHU or connected ductwork	☑	☐	☐	

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AIR HANDLING UNIT

CENTRAL STATION

Project: ProofTech Tower (DEMO Project)

Unit Data

Tag Number	AHU-24	Manufacturer	PETRA
Location	Roof Floor	Model Number	PH376
Area Served	Floor # 1	Serial Number	54321/20/119

Supply Fan Data

Item	Design	Actual	Unit
Air Distribution - Inlets			CFM
Air Distribution - Outlets	6,480	6,481	CFM
Return Air Flow			CFM
Supply Air Flow	6,500	6,509	CFM
Outdoor Air Flow			CFM
Suction Static Pressure(-)		-1.08	inWG
Discharge Static Pressure(+)		2.06	inWG
Total Static Pressure(T.S.P)	3.00	3.14	inWG
External Static Pressure(E.S.P)	2.00	2.24	inWG

Supply Fan Motor Data

Item	Design	Actual	Unit
Power	5.4	6.30	kW
Volts	400	408/409/412	V
Amps	8.6	12.3/12.3/12.4	A
Frequency	50	50	Hz
Motor Speed	1450	1476	RPM
Fan Speed	2102	N.A	RPM
Phase	3	3	-
Corrected Nameplate Amps		8.40	A
Motor Service Factor		1.15	-
Overload Relay Setting	VFD		A
Starter Manufacturer	ABB		-
Starter Type	Variable frequency drive (VFD)		-

Supply Fan Other Data

Fan Manufacturer	NICOTRA
Motor Manufacturer	WEG
Belt Size	Bx-78
No of belts	2
Fan Drive Type	Belt Drive
Fan Pulley dia	5.71 in
Fan Shaft dia	0.98 in
Motor Pulley dia	4.13 in
Motor Shaft dia	0.98 in
Shaft Center Distance	14.92 in

Filters and Coil Pressure Drop

Item	Design	Actual	Unit
Pre Filter	N.A	0.23	inWG
Cooling Coil	N.A	0.67	inWG

Filter Data

Pre Filter: MERV Rating	10
Pre Filter: Quantity & Size	8 | 12x12

Remarks

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AIR HANDLING UNIT

RECTANGULAR DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location:
System Designation: AHU-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Data

Points	1	2	3	4	5	6
A	881.00	907.00	917.00	933.00	929.00	932.00
B	927.00	945.00	981.00	986.00	938.00	941.00
C	931.00	958.00	1,018.00	1,003.00	955.00	947.00
D	907.00	951.00	1,006.00	1,056.00	957.00	942.00
E	865.00	941.00	964.00	972.00	938.00	931.00
Total Velocity	4511	4702	4886	4950	4717	4693
AVERAGE VELOCITY = TOTAL VELOCITY / NUMBER OF READINGS = = 948.63 ft/min						
DUCT SIZE I.D. = 26.00x38.00 in DUCT AREA = 6.8610 ft²						
ACTUAL FLOW = AVERAGE VELOCITY x DUCT AREA = = 6,509 CFM						

Duct Traverse Summary

	Design	Actual	Unit	% of Design	S.P
Flow	6,500	6,509	CFM	100.1 %	0 inWG
Velocity	946.85	948.63	ft/min		

Remarks

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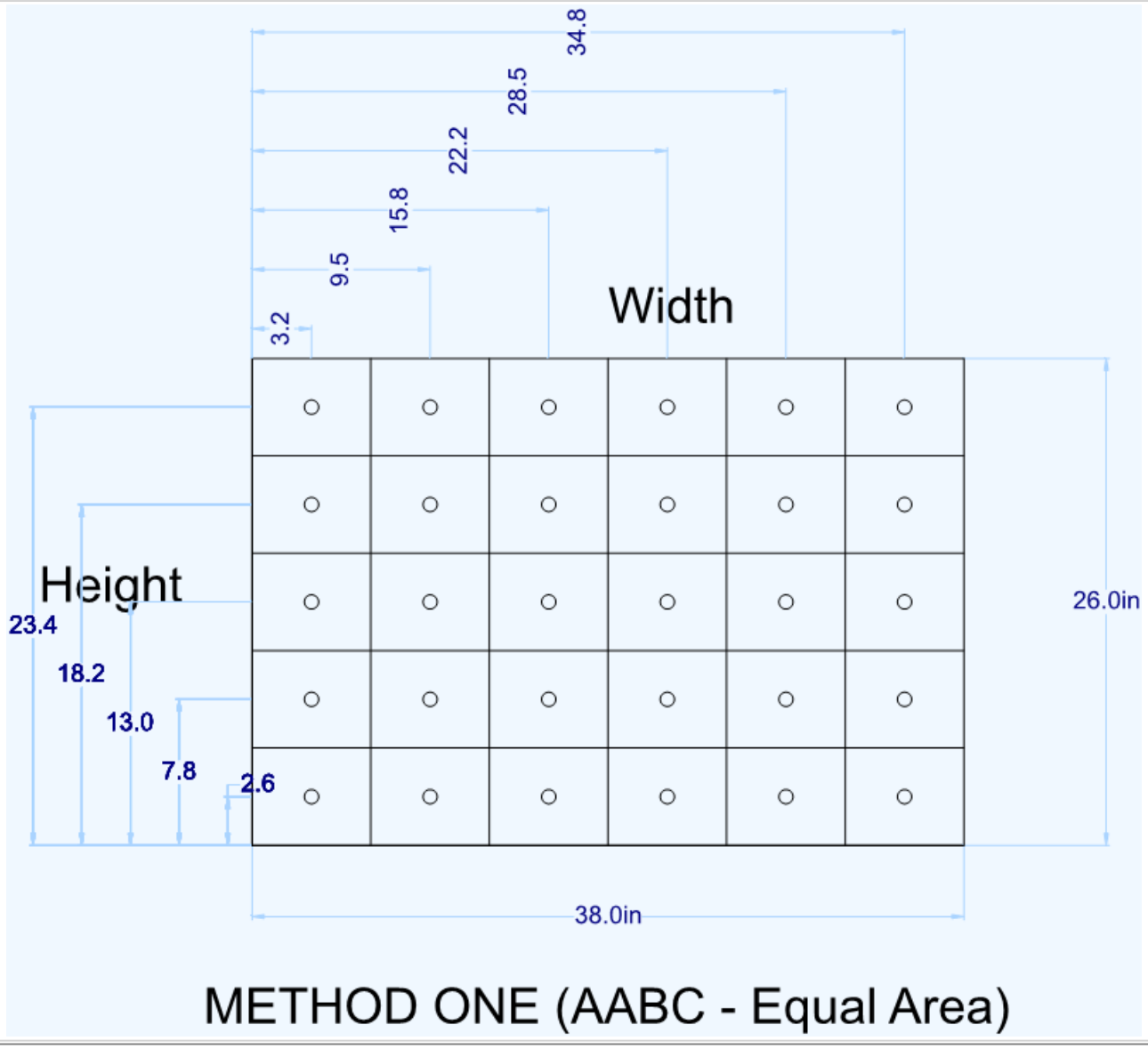
AIR HANDLING UNIT

RECTANGULAR DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location:
System Designation: AHU-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Points



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Date : 03/05/2025

Stamp :

Owner	Consultant	Contractor	TAB Firm
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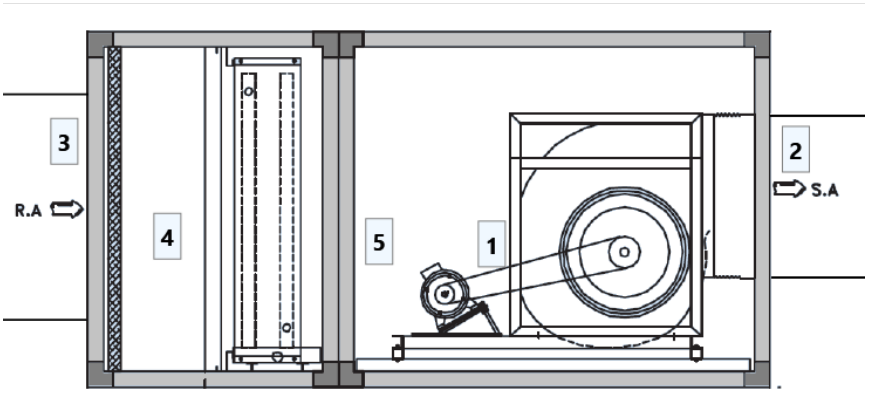
AIR HANDLING UNIT

STATIC PRESSURE PROFILE

Project: ProofTech Tower (DEMO Project)

Unit Data			
Tag Number	AHU-24	Manufacturer	PETRA
Location	Roof Floor	Model Number	PH376
Area Served	Floor # 1	Serial Number	54321/20/119



Point	Description	Pressure Reading	Unit
1	Fan Suction	-1.08	inWG
2	Fan Discharge	2.06	inWG
3	Return Air Duct/Before Filter Section	-0.18	inWG
4	After Filter Section/ Before Coil	-0.41	inWG
5	After Coil	-1.08	inWG

Remarks

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AIR HANDLING UNIT

AIR DISTRIBUTION (AIR OUTLETS)

Project: ProofTech Tower (DEMO Project)
Location : Roof Floor
System Designation : AHU-24
Test Apparatus : Capture Hood & Rotating Vane anemometer

Outlets

Terminal Data						Design		Actual		% of Design
No	Area Served	Type	Size	AK	VAV	Vel	Flow	Vel	Flow	
1	Office # 101	SG	20x8	0.7889	VAV-S-09	634 ft/min	500 CFM	614 ft/min	484 CFM	**97 %**
2	Office # 102	SG	20x8	0.7889	VAV-S-09	634 ft/min	500 CFM	633 ft/min	499 CFM	**100 %**
3	Office # 103	SG	20x8	0.7889	VAV-S-09	837 ft/min	660 CFM	776 ft/min	612 CFM	**93 %**
4	Office # 104	SG	20x8	0.7889	VAV-S-12	837 ft/min	660 CFM	814 ft/min	642 CFM	**97 %**
5	Office # 105	SG	20x8	0.7889	VAV-S-12	608 ft/min	480 CFM	599 ft/min	473 CFM	**98 %**
6	Office # 106	SG	20x8	0.7889	VAV-S-12	634 ft/min	500 CFM	645 ft/min	509 CFM	**102 %**
7	Office # 107	SG	20x8	0.7889	VAV-S-08	634 ft/min	500 CFM	634 ft/min	500 CFM	**100 %**
8	Conference Room	SCD	24x24	-	VAV-S-11	-	790 CFM	-	823 CFM	**105 %**
9	Conference Room	SCD	24x24	-	VAV-S-11	-	790 CFM	-	834 CFM	
10	Office # 108	SG	20x8	0.7889	VAV-S-10	697 ft/min	550 CFM	702 ft/min	554 CFM	**101 %**
11	Office # 109	SG	20x8	0.7889	VAV-S-10	697 ft/min	550 CFM	698 ft/min	551 CFM	**100 %**
	TOTAL						**6,480 CFM**		**6,481 CFM**	**100 %**

* If AK ='-', Velocity information and measurement are not required.

Remarks

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AIR HANDLING UNIT

VAV - CONNECTED TO AIR OUTLETS

Project: ProofTech Tower (DEMO Project)

System Designation:AHU-24

VAV Terminal Units Data

VAV No	Location	Model	Size	CF	Design Flow		Actual Flow	
					Min	Max	Min	Max
VAV-S-09	Office Area	TRE-15	8 Inch	1.15	166 CFM	1,660 CFM	176 CFM	1,596 CFM
VAV-S-12	Office Area	TRE-15	8 Inch	0.97	164 CFM	1,640 CFM	171 CFM	1,624 CFM
VAV-S-11	Conference Roo	TRE-15	8 Inch	1.04	158 CFM	1,580 CFM	164 CFM	1,657 CFM
VAV-S-10	Office Area	TRE-15	8 Inch	1.25	110 CFM	1,100 CFM	103 CFM	1,104 CFM
VAV-S-08	Office Area	TRE-05	4 Inch	1.76	50 CFM	500 CFM	48 CFM	500 CFM

Remarks

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AIR HANDLING UNIT

TEMPERATURE

Project: ProofTech Tower (DEMO Project)
Time Readings Taken:04 May 2025 15:57:00
System Designation:AHU-24
Outside Conditon:98.0 °F DB 86.1 °F WB 62.0%

Temperature Readings

Area Served (Room #)	Temp	Design			Actual			Comment
	Set Point (°F)	DB (°F)	WB (°F)	RH	DB (°F)	WB (°F)	RH	
Office # 101	75.0	75.0	62.6	50	74.8	61.6	47	
Office # 102	75.0	75.0	62.6	50	75.4	60.5	42	
Office # 103	75.0	75.0	62.6	50	75.6	64.4	55	
Office # 104	75.0	75.0	62.6	50	74.3	62.3	51	
Office # 105	75.0	75.0	62.6	50	74.8	63.0	52	
Office # 106	75.0	75.0	62.6	50	75.4	63.7	53	
Office # 107	75.0	75.0	62.6	50	76.3	64.8	54	
Conference Room	75.0	75.0	62.6	50	74.5	61.8	49	
Conference Room	75.0	75.0	62.6	50	74.1	62.7	53	
Office # 108	75.0	75.0	62.6	50	74.1	62.7	53	
Office # 109	75.0	75.0	62.6	50	75.4	62.3	48	

Remarks

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AIR HANDLING UNIT

CONTROL VERIVICATION CHECKLIST

Project: ProofTech Tower (DEMO Project)

Unit Designation	AHU-24	Model Number	PH376
Location	Roof Floor	Serial Number	54321/20/119
Manufacturer	PETRA		

AHU - Commissioning Checklist

Item	Pass	Fail	N.A.	Comment
AHU start up done by the supplier.	☑	☐	☐	
Unit free from any damage.	☑	☐	☐	
Verify that the AHU is installed according to approved drawings and specifications.	☑	☐	☐	
Enough clearance maintained around the AHU for maintenance.	☑	☐	☐	
Verify that all electrical connections are properly terminated and securely fastened.	☑	☐	☐	
Controls Complete (according to I/O list).	☑	☐	☐	
VFD on Supply and Exhaust are programmed and set according to TAB report.	☑	☐	☐	
Vibration isolators are installed.	☑	☐	☐	

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Ventilation Air Fans Section

Owner	Consultant	Contractor	TAB Firm
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FAN TEST REPORT

PRE-TAB CHECK LIST

Project: ProofTech Tower (DEMO Project)

Unit Designation	EXF-D-01	Model Number	BOX-T 12-12
Location	Roof	Serial Number	N.A
Manufacturer	DYNAIR		

Air Fan | Pre-TAB Checklist

Group	Item	Ok	Not Ok	N/A	Comment
Installation	Fan is installed securely on vibration-isolated base	☑	☐	☐	
	Installation orientation and location match approved drawings	☑	☐	☐	
Ductwork	Inlet and outlet ducts are properly connected and sealed	☑	☐	☐	
	Flexible connectors are installed to isolate vibration	☑	☐	☐	
	Grilles/diffusers are installed and matched to layout	☑	☐	☐	
	All dampers are installed, operational and accessible	☑	☐	☐	
Electrical	Power supply is connected with appropriate isolator and breaker	☑	☐	☐	
	Motor wiring is completed and labeled	☑	☐	☐	
	Earthing is completed properly	☑	☐	☐	
Controls	Motor starter/VFD is installed and functional (if applicable)	☐	☐	☑	
	Start/stop control wiring is terminated	☑	☐	☐	
	BMS or manual control interface is provided	☐	☐	☑	
Mechanical	Fan impeller is free from physical damage	☑	☐	☐	
	Fan spins freely with no abnormal noise or resistance	☑	☐	☐	
	Fasteners and mounting hardware are tight and secure	☑	☐	☐	
Other	Fan casing and nearby area are clean and free of debris	☐	☑	☐	
	Fan tag and airflow direction labels are visible	☑	☐	☐	
	Approved shop drawings and Data Sheetl are available on site	☑	☐	☐	
	Contractor’s internal pre-startup checklist is completed	☑	☐	☐	

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FAN TEST REPORT

MAIN DATA

Project: ProofTech Tower (DEMO Project)

Unit Data

Tag Number	EXF-D-01	Manufacturer	DYNAIR
Location	Roof	Model Number	BOX-T 12-12
Area Served	Roof, First and Ground floors	Serial Number	N.A

Fan Data

Item	Design	Actual	Unit
Total Airflow - Air Distribution	2,818	3,005	CFM
Total Airflow - Fan	2,818	2,810	CFM
Suction Static Pressure(-)		-1.00	inWG
Discharge Static Pressure(+)		0.00	inWG
Total Static Pressure(T.S.P)	1.43	1.00	inWG

Fan Motor Data

Item	Design	Actual	Unit
Power	1.1	0.94	kW
Volts	400	407/405/404	V
Amps	2.7	2.21/2.41/2.52	A
Frequency	50	50	Hz
Motor Speed	1450	1397	RPM
Fan Speed	989	975	RPM
Phase	3	3	-
Corrected Nameplate Amps		2.66	A
Motor Service Factor		1.15	-
Overload Relay Range	N.A		A
Overload Relay Setting	N.A		A

Fan Other Data

Fan Manufacturer	DYNAIR
Motor Manufacturer	marathon
Belt Size	13X1 100Li
No of belts	1
Fan Drive Type	Belt Drive
Fan Pulley dia	5.71 in
Fan Shaft dia	0.98 in
Motor Pulley dia	4.13 in
Motor Shaft dia	0.98 in
Shaft Center Distance	14.92 in

Remarks

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FAN TEST REPORT

CIRCULAR DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location: Main EAD - Roof Floor
System Designation: EXF-D-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Data

Points	1	2	3	4	5	6	7	8	9	10
Horizontal	833.00	868.00	863.00	937.00	945.00	943.00	921.00	904.00	884.00	863.00
Vertical	834.00	843.00	853.00	957.00	938.00	967.00	924.00	919.00	889.00	853.00
Total Velocity	1667	1711	1716	1894	1883	1910	1845	1823	1773	1716

AVERAGE VELOCITY = TOTAL VELOCITY / NUMBER OF READINGS = = 896.90 ft/min

DUCT Diameter = 25.00 in DUCT AREA = 3.4090 ft²

ACTUAL FLOW = AVERAGE VELOCITY x DUCT AREA = = 3,058 CFM

Duct Traverse Summary

	Design	Actual	Unit	% of Design	S.P
Flow	2,818	3,058	CFM	108.5 %	0 inWG
Velocity	826.77	896.90	ft/min		

Remarks

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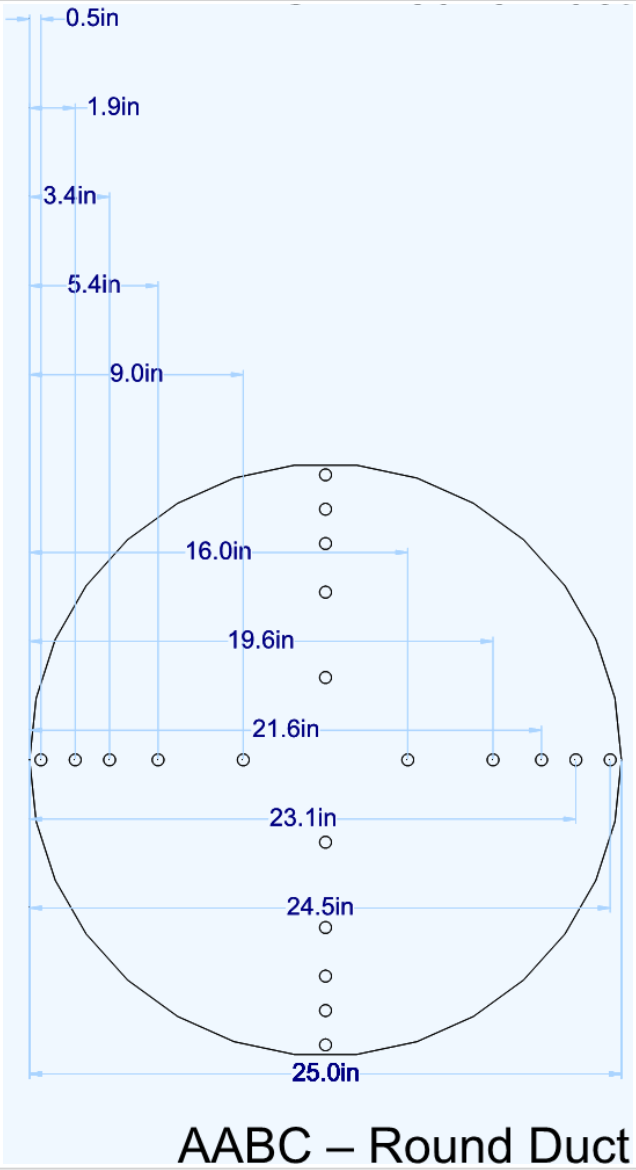
FAN TEST REPORT

CIRCULAR DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location: Main EAD - Roof Floor
System Designation: EXF-D-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Points



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FAN TEST REPORT

FLAT OVAL DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location: Main EAD - Roof Floor
System Designation: EXF-D-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Data

Horizontal Points

Points	1	2	3	4	5	6	7	8	9	10
A	433.00	458.00	469.00	499.00	515.00	526.00	487.00	434.00	428.00	415.00

Vertical Points

Points	1
A	439.00
B	442.00
C	458.00
D	456.00
E	517.00
F	509.00
G	447.00
H	451.00
I	438.00
J	428.00
Total Velocity	4585

AVERAGE VELOCITY = TOTAL VELOCITY / NUMBER OF READINGS = = 462.45 ft/min

DUCT SIZE I.D. = 25.00x35.00 in DUCT AREA = 6.0763 ft²

ACTUAL FLOW = AVERAGE VELOCITY x DUCT AREA = = 2,810 CFM

Duct Traverse Summary

	Design	Actual	Unit	% of Design	S.P
Flow	2,818	2,810	CFM	99.7 %	-1.2 inWG
Velocity	464.57	462.45	ft/min		

Remarks

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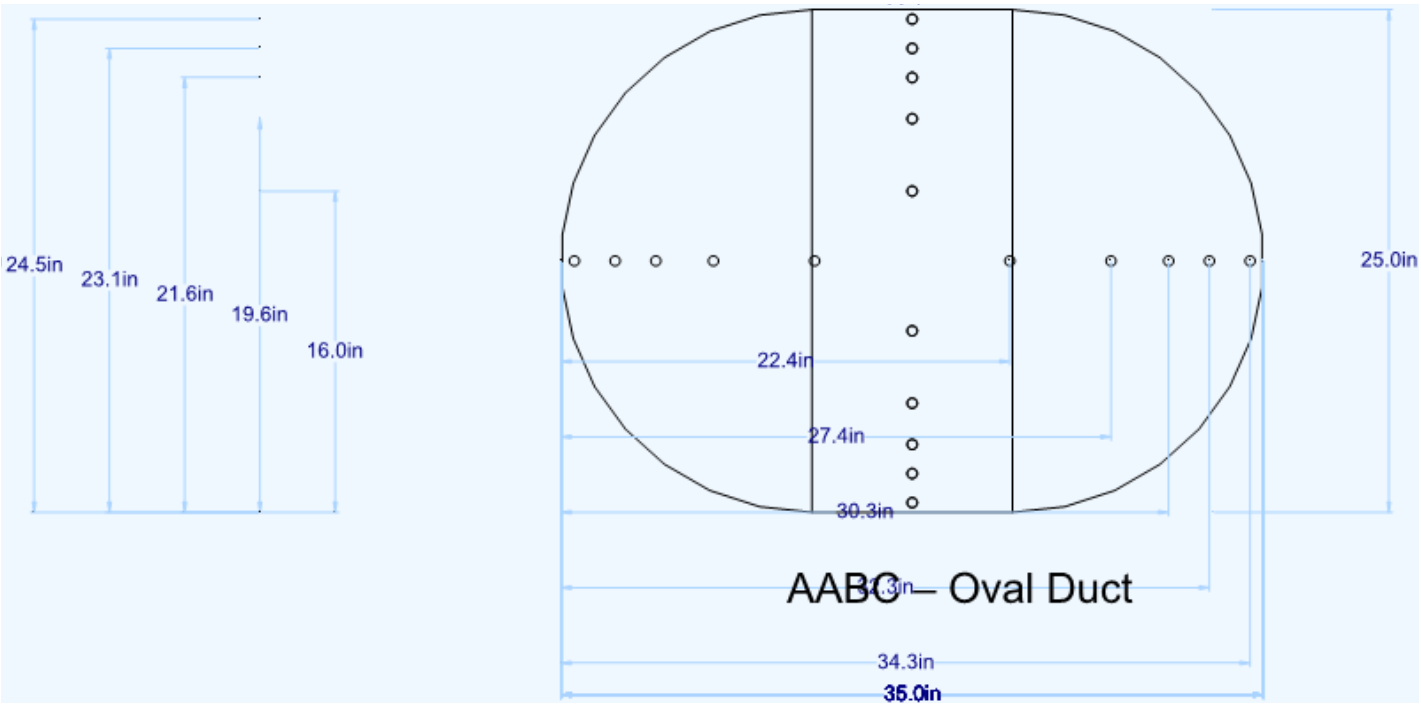
FAN TEST REPORT

FLAT OVAL DUCT TRAVERSE

Project: ProofTech Tower (DEMO Project)
Traverse Location: Main EAD - Roof Floor
System Designation: EXF-D-01
Test Apparatus: Pitot Tube with Manometer

Duct Traverse Points



Read By : Naseem Hashem Date : 13/05/2025 Stamp :

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

FAN TEST REPORT

AIR DISTRIBUTION

Project: ProofTech Tower (DEMO Project)
Location : Roof
System Designation : EXF-D-01
Test Apparatus : Capture Hood & Rotating Vane anemometer

Outlets

Terminal Data					Design		Actual		% of Design
No	Area Served	Type	Size	AK	Vel	Flow	Vel	Flow	
1	D.U.	4WRD	6x6	0.1500	494 ft/min	74 CFM	537 ft/min	81 CFM	**109 %**
2	Staff Lounge	4WRD	6x6	0.1500	494 ft/min	74 CFM	538 ft/min	81 CFM	**109 %**
3	Store	4WRD	9x9	0.1500	706 ft/min	106 CFM	754 ft/min	113 CFM	**107 %**
4	Store	4WRD	9x9	0.1500	989 ft/min	148 CFM	1,075 ft/min	161 CFM	**109 %**
5	Female Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	536 ft/min	80 CFM	**108 %**
6	Male Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	487 ft/min	73 CFM	**99 %**
7	D.U OR+LDR	4WRD	6x6	0.1500	494 ft/min	74 CFM	498 ft/min	75 CFM	**101 %**
8	C.U OR+LDR	4WRD	9x9	0.1500	706 ft/min	106 CFM	801 ft/min	120 CFM	**113 %**
9	Janitor	4WRD	6x6	0.1500	494 ft/min	74 CFM	528 ft/min	79 CFM	**107 %**
10	Doctor On-Call	4WRD	6x6	0.1500	494 ft/min	74 CFM	487 ft/min	73 CFM	**99 %**
11	Corridor	4WRD	6x6	0.1500	636 ft/min	95 CFM	683 ft/min	102 CFM	**107 %**
12	Staff Lounge	4WRD	12x12	-	-	265 CFM	-	287 CFM	**108 %**
13	Doctor On-Call Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	542 ft/min	81 CFM	**110 %**
14	Male Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	549 ft/min	82 CFM	**111 %**
15	Female Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	542 ft/min	81 CFM	**110 %**
16	Store	4WRD	9x9	0.1500	706 ft/min	106 CFM	784 ft/min	118 CFM	**111 %**
17	Doctor On-Call Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	571 ft/min	86 CFM	**115 %**
18	Female Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	527 ft/min	79 CFM	**107 %**
19	Male Ch. Room	D.V	6 INCH	0.1500	494 ft/min	74 CFM	517 ft/min	78 CFM	**105 %**
20	Staff Lounge	4WRD	12x12	-	-	328 CFM	-	345 CFM	**105 %**
21	Double Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	531 ft/min	80 CFM	**107 %**
22	Double Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	521 ft/min	78 CFM	**105 %**
23	Corridor	4WRD	6x6	0.1500	636 ft/min	95 CFM	686 ft/min	103 CFM	**108 %**
24	Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	517 ft/min	78 CFM	**105 %**
25	D.U	4WRD	6x6	0.1500	565 ft/min	85 CFM	616 ft/min	92 CFM	**109 %**
26	None Med Store	4WRD	6x6	0.1500	494 ft/min	74 CFM	526 ft/min	79 CFM	**106 %**
27	Double Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	478 ft/min	72 CFM	**97 %**
28	Double Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	483 ft/min	72 CFM	**98 %**
29	Double Patient Room Toilet	D.V	6 INCH	0.1500	494 ft/min	74 CFM	501 ft/min	75 CFM	**101 %**
	TOTAL					**2,818 CFM**		**3,005 CFM**	**107 %**

* If AK ='-', Velocity information and measurement are not required.

Remarks

Read By : Naseem Hashem Date : 13/05/2025 Stamp : COMPANY NAME / COMPANY TYPE / SEAL 2020 / CITY NAME / STATE NAME

Fan Coil Units

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

FAN COIL UNIT TEST REPORT

MAIN DATA

Project: ProofTech Tower (DEMO Project)

Unit Data

Tag Number	FCU/1-208	Manufacturer	PETRA
Location	FIRST FLOOR	Model Number	DCP14
Area Served	MEETING ROOM 1238	Serial Number	2983018/16091/06

Supply Fan Motor Data

Item	Design	Actual	Unit
Power	0.200	0.18	kW
Volts	220/240	232	V
Amps	2.8	1.06	A
Frequency	50	50	Hz
Phase	1	1	-

Outlets

Terminal Data					Design		Actual		% of Design
No	Area Served	Type	Size	AK	Vel	Flow	Vel	Flow	
1	MEETING ROOM	SD	12x12	-	-	456 CFM	-	963	**106 %**
2	MEETING ROOM	SD	12x12	-	-	456 CFM	-		
	TOTAL					**911 CFM**		**963 CFM**	**106 %**

* If AK ='-', Velocity information and measurement are not required.

Inlets

Terminal Data					Design		Actual		% of Design
No	Area Served	Type	Size	AK	Vel	Flow	Vel	Flow	
1	MEETING ROOM	RD	12x12	-	-	371 CFM	-	796	**107 %**
2	MEETING ROOM	RD	12x12	-	-	371 CFM	-		
	TOTAL					**742 CFM**		**796 CFM**	**107 %**

* If AK ='-', Velocity information and measurement are not required.

Remarks

Read By : Naseem Hashem Date : 15/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

FAN COIL UNIT TEST REPORT

MAIN DATA

Project: ProofTech Tower (DEMO Project)

Unit Data

Tag Number	FCU/1-204	Manufacturer	PETRA
Location	First Floor	Model Number	RAC 5 CBP C3H1
Area Served	OFFICE 1228	Serial Number	2453018/9801/12

Supply Fan Motor Data

Item	Design	Actual	Unit
Power	0.049	0.09	kW
Volts	220/240	232	V
Amps	0.85	0.51	A
Frequency	50	50	Hz
Phase	1	1	-

Outlets

Terminal Data					Design		Actual		% of Design
No	**Area Served**	**Type**	**Size**	**AK**	**Vel**	**Flow**	**Vel**	**Flow**	
1	Physical Office	SD	16x10	0.9444	487 ft/min	460 CFM	516 ft/min	487 CFM	**106 %**
	TOTAL					**460 CFM**		**487 CFM**	**106 %**

* If AK ='-', Velocity information and measurement are not required.

Inlets

Terminal Data					Design		Actual		% of Design
No	**Area Served**	**Type**	**Size**	**AK**	**Vel**	**Flow**	**Vel**	**Flow**	
1	Physical Office	RD	16x10	0.9444	424 ft/min	400 CFM	416 ft/min	393 CFM	**98 %**
	TOTAL					**400 CFM**		**393 CFM**	**98 %**

* If AK ='-', Velocity information and measurement are not required.

Remarks

Read By : Naseem Hashem Date : 15/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Hydronic System Section

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

AIR COOLED CHILLER

PRE-TAB CHECK LIST

Project: ProofTech Tower (DEMO Project)

Unit Designation	CH-8	Model Number	PSC-75
Location	ROOF	Serial Number	13018/8101/12
Manufacturer	PETRA		

Air Cooled Chiller | Pre-TAB Checklist

Group	Item	Ok	Not Ok	N.A.	Comment
Installation	Chiller is installed on a level, vibration-isolated base	☑	☐	☐	
	Installation location is per approved shop drawings	☑	☐	☐	
	Sufficient clearance for service and maintenance is provided	☑	☐	☐	
Piping	Chilled water supply and return lines are connected correctly	☑	☐	☐	
	Flexible connectors, strainers, and isolation valves are installed	☑	☐	☐	
	Pipes are insulated and labeled properly	☑	☐	☐	
	Air release valves are installed at high points	☑	☐	☐	
	Pressure gauges installed directly before and after chiller	☐	☑	☐	
Electrical	Main power is connected with appropriate isolator and breaker	☑	☐	☐	
	Control wiring and communication cables are terminated and labeled	☑	☐	☐	
Controls	Chiller control panel is powered and display is functional	☑	☐	☐	
	Flow switch or differential pressure switch is installed and wired	☑	☐	☐	
	Remote start/stop and BMS points are connected	☐	☐	☑	
Mechanical	Fans, compressors, and coils are clean and free of physical damage	☑	☐	☐	
	No abnormal noise or vibration during startup	☑	☐	☐	
Refrigerant Circuit	No visible damage to refrigerant piping/components	☑	☐	☐	
	Refrigerant charge is as per manufacturer specifications	☑	☐	☐	
Other	No visible water or refrigerant leakage	☑	☐	☐	
	Approved shop drawings and data sheet are available on site	☑	☐	☐	
	Contractor's internal startup checklist has been completed	☑	☐	☐	

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Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

AIR COOLED CHILLER

Project: ProofTech Tower (DEMO Project)

Chiller Data			
Unit Designation	CH-8	Model Number	PSC-75
Location	ROOF	Serial Number	13018/8101/12
Manufacturer	PETRA	Capacity	60.00 TR

Cooler # 1			
Item	**Design**	**Actual**	**Unit**
Water Flow Rate	135.05	116.34	US gpm
Water Pressure Drop	1.94	-	PSI
Entering Water Temperature	55.40	55.00	°F
Leaving Water Temperature	44.60	44.00	°F
Water Delta Temperature	10.80	11.00	°F

Compressors and Condensers Electrical Data			
Item	**Design**	**Actual**	**Unit**
Compressor # 1 Amps	N.A	92.5	Amp
Compressor # 1 Volts	400	398/491/402	Volt
Compressor # 2 Amps	N.A	91.7	Amp
Compressor # 2 Volts	400	398/491/402	Volt
Compressor # 3 Amps	N.A	93.6	Amp
Compressor # 3 Volts	400	398/491/402	Volt
Compressor # 4 Amps	N.A	94.8	Amp
Compressor # 4 Volts	400	398/491/402	Volt
Condensers Amps	5.2	3.9	Amp
Condensers Volts	400	398/491/402	Volt

Remarks

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Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

PUMP

PRE-TAB CHECK LIST

Project: ProofTech Tower (DEMO Project)

Chilled Water Pump | Pre-TAB Checklist

	Item	Ok	Not Ok	N/A	Comment
Installation	Pump is installed securely on foundation with proper alignment	☑	☐	☐	
	Pump orientation and position match approved drawings	☑	☐	☐	
Piping Connection	Suction and discharge piping are connected and supported properly	☑	☐	☐	
	Flexible connectors or vibration isolators are installed (if applicable)	☑	☐	☐	
	Valves (isolation, check) are installed in correct locations	☑	☐	☐	
	Strainer is installed on suction side and cleaned	☑	☐	☐	
Electrical	Power supply and motor wiring are completed and labeled	☑	☐	☐	
	Proper earthing is provided	☑	☐	☐	
Controls	Motor starter/VFD is installed and operational	☐	☐	☑	
	Start/stop and status signals are connected to BMS (if applicable)	☐	☐	☑	
Mechanical	Pump rotates freely by hand (if possible)	☑	☐	☐	
	Pump and motor coupling is aligned and secured	☐	☑	☐	
	No visible damage, rust or leakage on pump body or fittings	☑	☐	☐	
General	Pump and surrounding area are clean and free of debris	☑	☐	☐	
	Approved shop drawings and Data Sheetl are available on site	☑	☐	☐	
	Contractor's internal pre-startup checklist is completed	☑	☐	☐	

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Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

PUMP TEST REPORT

Project: ProofTech Tower (DEMO Project)

Unit Data

Tag Number	CWP-08-DUTY	Manufacturer	masdaf
Location	ROOF	Model Number	NMM 40-200
System Served	Chilled Water Network For CH-8	Serial Number	B1806332

Pump Data

Service	CWP-07-DUTY
Impeller Size	9.8 inch
Motor Manufacturer	WAT

Pump Test

Title	Design	Actual	Unit
Suction Pressure	-	0.13	PSI
Discharge Pressure	-	0.46	PSI
Operating Head Pressure(ΔP)	0.31	0.33	PSI
Shut Off Suction Pressure	-	0.16	PSI
Shut Off Discharge Pressure	-	0.50	PSI
Shut Off Head(ΔP)	0.33	0.34	PSI

Motor / Water Flow Tests

Title	Design	Actual	Unit
Power	5.5	4.69	kW
Volts	380	406/410/407	V
Amps	11.7	8.61/9.62/9.42	A
Frequency	50	50	Hz
Motor Speed	1420	1472	RPM
Phase	3	3	-
Corrected Nameplate Amps	-	10.91	A
Motor Service Factor	1.15	1.15	-
Overload Relay Range		9-14	A
Overload Relay Setting		12	A
Water Flow	135.00	116.00	US gpm

Remarks

Read By : Naseem Hashem Date : 06/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

BALANCING VALVE

MANUAL BALANCE VALVE

Project: ProofTech Tower (DEMO Project)
System Served: Chilled Water Network For CH-7 & CH-8

Balancing Valves

No.	Unit Designation	Balancing Valve Data			Design	Actual				%
		Manufacturer	Model	Size (in)	Flow (US gpm)	DRV Setting	Kvs	ΔP (ftWG)	Flow (US gpm)	
2	AHU-24	HATTERSLEY	1732	2	26.153	1.6	47.7	0.5	25.722	98
3	FIRST FLOOR	HATTERSLEY	1732	2	32.176	2.3	47.7	0.9	33.864	105
5	GROUND FLOOR	HATTERSLEY	MH737	2 1/2	37.090	8	85	0.3	35.504	96
6	BASMENT FLOOR	HATTERSLEY	1732	1 1/2	22.191	4	23.06	1.5	21.297	96
	TOTAL				**117.610**				**116.387**	**99**

Remarks

Read By : Naseem Hashem Date : 06/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Sound Measurements

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

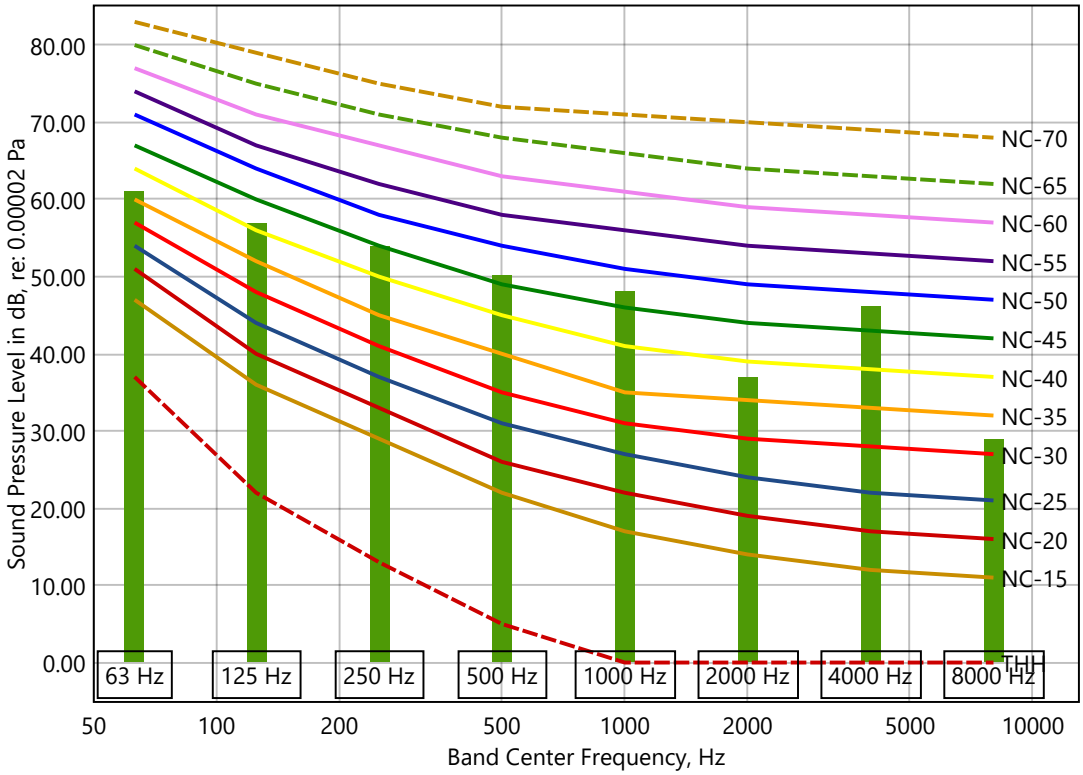
SOUND TEST

NOISE CRITERIA REPORT

Project: ProofTech Tower (DEMO Project) **Location:** Meeting Room

Sound Measurement of: Noise Criteria (NC)

Noise Criteria Curves



OCTAVE BANDS - READING

Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Measured dB (Equipment On)	61	57	54	50	48	37	46	29

OVERALL NOISE CRITERIA (NC)
48 @ 4000 Hz

Remarks

Read By :

Date : 11/05/2025

Stamp :

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

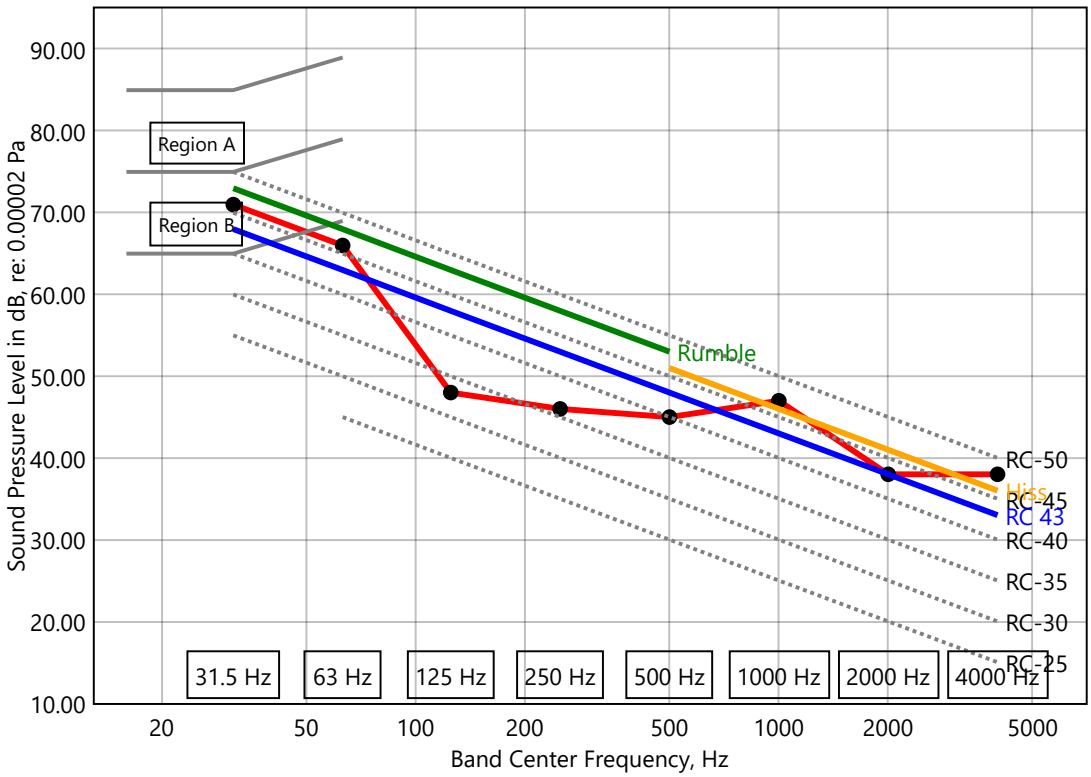
SOUND TEST

ROOM CRITERIA REPORT

Project: ProofTech Tower (DEMO Project) **Location:** Office # 108

Sound Measurement of: Room Criteria (RC)

Room Criteria Curves



OCTAVE BANDS - READING

Frequency	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Measured dB (Equipment On)	71	66	48	46	45	47	38	38

OVERALL ROOM CRITERIA (RC)
43

Neutral	Rumble	Hiss	Tone	Vibration
☐	☐	☑	☑	☑

Remarks

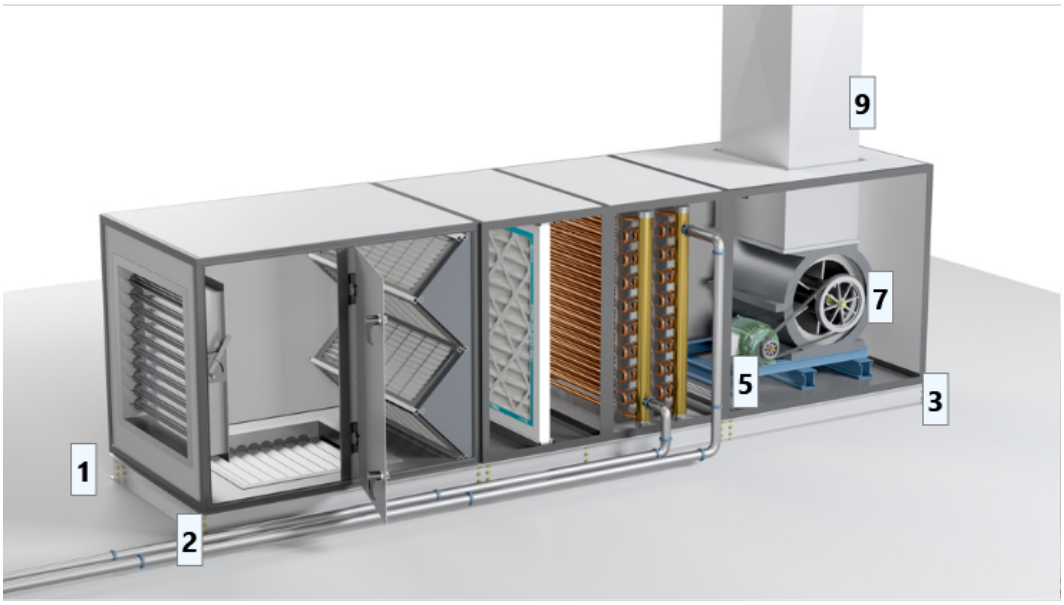
Read By : Date : 11/05/2025 Stamp : COMPANY NAME / COMPANY TYPE / SEAL 2020 / CITY NAME / STATE NAME

Vibration Measurements

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

VIBRATION TEST

Project: ProofTech Tower (DEMO Project)
System Designation: Vibration Measurement - AHU-24



Vibration Test Readings

Location of Reading		Horizontal		Vertical		Axial	
No.	Description	Velocity	Displacement	Velocity	Displacement	Velocity	Displacement
1	AHU Casing - Point #1	0.11 in/s	0.7 mils	0.12 in/s	0.8 mils	0.11 in/s	0.6 mils
2	AHU Casing - Point #2	0.1 in/s	0.6 mils	0.11 in/s	0.7 mils	0.09 in/s	0.5 mils
3	AHU Casing - Point #3	0.13 in/s	0.8 mils	0.14 in/s	0.9 mils	0.12 in/s	0.7 mils
4	AHU Casing - Point #4	0.12 in/s	0.7 mils	0.13 in/s	0.8 mils	0.11 in/s	0.6 mils
5	Motor Bearing, Drive End	0.17 in/s	1.1 mils	0.18 in/s	1.1 mils	0.16 in/s	0.9 mils
6	Motor Bearing, Opposite End	0.14 in/s	0.9 mils	0.15 in/s	1.2 mils	0.13 in/s	0.8 mils
7	Fan Bearing (Drive End)	0.18 in/s	1.1 mils	0.21 in/s	1.3 mils	0.19 in/s	1.2 mils
8	Fan Bearing (Opposite End)	0.16 in/s	1.2 mils	0.17 in/s	1.1 mils	0.15 in/s	1.1 mils
9	Duct After Flexible Connection (Discharge)	0.08 in/s	0.4 mils	0.09 in/s	0.5 mils	0.07 in/s	0.3 mils

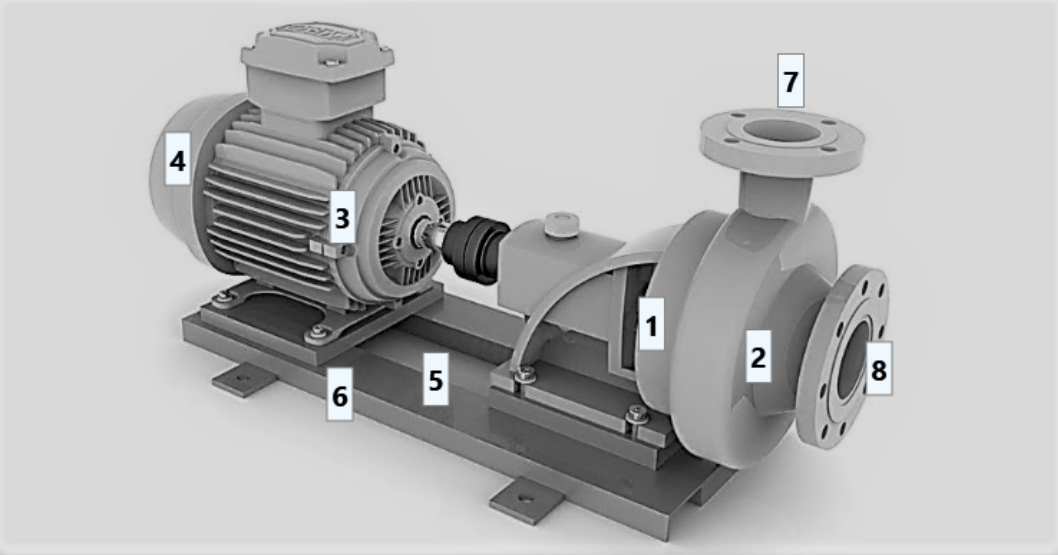
Remarks

Read By : Naseem Hashem Date : 21/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

VIBRATION TEST

Project: ProofTech Tower (DEMO Project)
System Designation: Vibration Measurement - CWP-08 DUTY



Vibration Test Readings

Location of Reading		Horizontal		Vertical		Axial	
No.	Description	Velocity	Displacement	Velocity	Displacement	Velocity	Displacement
1	Pump Bearing, Drive End	0.12 in/s	1.2 mils	0.15 in/s	1.3 mils	0.14 in/s	1.2 mils
2	Pump Bearing, Opposite End	0.11 in/s	0.9 mils	0.13 in/s	1.2 mils	0.12 in/s	1.1 mils
3	Motor Bearing, Drive End	0.1 in/s	0.8 mils	0.14 in/s	1.2 mils	0.13 in/s	1.1 mils
4	Motor Bearing, Opposite End	0.09 in/s	0.7 mils	0.12 in/s	1.1 mils	0.11 in/s	0.9 mils
5	Structure (Top)	0.06 in/s	0.5 mils	0.08 in/s	0.6 mils	0.07 in/s	0.6 mils
6	Structure ((Side)	0.05 in/s	0.5 mils	0.08 in/s	0.6 mils	0.07 in/s	0.6 mils
7	Pipe After Flexible Connection (Discharge)	0.04 in/s	0.4 mils	0.04 in/s	0.4 mils	0.04 in/s	0.4 mils
8	Pipe After Flexible Connection (Suction)	0.06 in/s	0.5 mils	0.06 in/s	0.5 mils	0.06 in/s	0.5 mils

Remarks

Read By : Naseem Hashem Date : 21/05/2025 Stamp : COMPANY NAME COMPANY TYPE SEAL 2020 CITY NAME STATE NAME

Owner	Consultant	Contractor	TAB Firm
XYZ	ABC	HVAC COMPANY	Proof CxTAB

INSTRUMENTS LIST

Project: ProofTech Tower (DEMO Project)

Instruments List

No	Instrument Type	Manufacturer	Model	Serial No	Calibration Date	Calibration Due Date
1	Capture Hood	Testo	420	50612038	13/03/2025	13/03/2026
2	Electrical	KYORITSU	KEW 2117R	0823925	03/05/2025	03/05/2026
3	Tachometer	CEM	AT-10	200710738	03/05/2025	03/05/2026
4	Rotating Vane	Testo	417	84231793	13/03/2025	13/03/2026

Remarks

Specialized for Calibration & Measurement

Certificate of Calibration

Customer Details:

Name:

Address: Amman - Jordan

Tel:

Job No.: 173/2024

Certificate No.: 1431/02/2024

Instrument Details:

Description : Air Flow Capture Hood

Model No : Testo/420

Serial No : 50612038

Cal Date : 22/02/2024

Due Date : 22/02/2025

Cal Result : PASS

Calibration Standard Used:

Description	Serial No.	Cal date	Due Date
Differential pressure	49138846	17/09/2023	17/09/2024
Capture Hood	50609000	20/07/2023	20/07/2024

Calibration Procedure: MFR Specification

Calibration Environmental Condition:

Temp.: 20.5°C RH: 40.0%

This is to certify that the instrument detailed above meets all the published specifications and has been calibrated with reference standards whose accuracies are traceable to National / International Standards. The deviations in the instrument reading are within the limits as per instrument specifications.

The calibration data is available in the succeeding report. The results given in the calibration report relate only to the measured values obtained at the time test and carry no implication regarding the long-term stability of the instrument

Performed by:

Approved by:

الشركة التخصصية للمعايرة والقياس

عمان – الجبيهة مجمع المستقبل التجاري اشارة المنهل بجانب كازية جوبترول مكتب رقم 107+ 108

Issue date: 24/02/2024

Specialized for Calibration & Measurement

Instrument Details: Certificate No.: 1431/02/2024

Description : Air Flow Capture Hood

Model No : Testo/420

Serial No : 50612038

Calibration Data

Volume Flow Range 50 to 4000 m³/h Accuracy: ±3 % of m.v. +12 m³/h at +22 °C, 1013 hPa (85 to 3500 m³/h)

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
150	150	m³/h	150	0
700	784	m³/h	785	-1
1200	1291	m³/h	1293	-2
2000	2151	m³/h	2153	-2

Correction = Reference Mean Reading - Instrument Mean Reading

Differential Pressure Range: -120 to +120 Pa Accuracy: ±2 % of mv + 0.5 Pa at +22 °C, 1013 hPa

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
50	50	Pa	51.223	-1.233
100	100	Pa	101.853	-1.853
120	120	Pa	119.712	0.288
-50	-50	Pa	-50.981	0.981
-100	-99	Pa	-101.358	-2.358
-120	-117	Pa	-118..902	-0.902

Correction = Reference Mean Reading - Instrument Mean Reading

Performed by: Approved by:

Specialized for Calibration & Measurement
الشركة التخصصية للمعايرة والقياس

Certificate of Calibration

Customer Details:
Name:
Address:
Tel:

Job No.: 173/2025
Certificate No.: 2208/05/2025

Instrument Details:

Description : **Digital Clamp Meter**
Model No. : **KYORITSU /KEW2117R**
Serial No. : **0823925**
Cal Date : **03/05/2025**
Due Date : **03/05/2026**
Cal Result : **PASS**

Calibration Standard Used:

Description	Serial No.	Cal Date	Due Date
Decade Resistor Box	I42672	21/10/2024	21/10/2025
Multimeter	EM221016	02/09/2024	02/09/2025

Calibration Procedure: SCMC/SOP-14

Calibration Environmental Condition:
Temp.: 22.0°C RH: 40.0%

This is to certify that the instrument detailed above meets all the published specifications and has been calibrated with reference standards whose accuracies are traceable to National / International Standards. The deviations in the instrument reading are within the limits as per instrument specifications.
The calibration data is available in the succeeding report. The results given in the calibration report relate only to the measured values obtained at the time test and carry no implication regarding the long-term stability of the instrument

Performed by:

Approved by:

الشركة التخصصية للمعايرة والقياس

عمان – الجبيهة مجمع المستقبل التجاري اشارة المنهل بجانب كازية جوبترول مكتب رقم 107+ 108
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Issue date: 03/05/2025

Specialized for Calibration & Measurement
الشركة التخصصية للمعايرة والقياس

Instrument Details: Certificate No.: 2208/05/2025

Description : Digital Clamp Meter

Model No. : KYORITSU /KEW2117R

Serial No. : 0823925

Calibration Data

AC Current Range: 60/600 & 1000 A Accuracy ± (2% ± 5 digits (40 Hz -1 KHz))

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
5	5.40	AAC	5.9	-0.50
30	30.44	AAC	30.6	-0.16
50	50.00	AAC	50.3	-0.30
150	149.5	AAC	150.0	-0.5

Correction= Reference Mean Reading- Instrument Mean Reading

AC Voltage Range 60.0 V /600 V Accuracy 1.5 % ± 4 digits (40 Hz to 1 KHz)

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
50	50.551	VAC	50.5	0.051
150	150.66	VAC	151.0	-0.34
300	300.76	VAC	301.4	-0.64
400	400.37	VAC	401.4	-1.03

Correction= Reference Mean Reading- Instrument Mean Reading

Performed by: Approved by:

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Tele Fax: +962-6-4913869

Email: scmcjordan@gmail.com hosam0952@yahoo.com

Issue date: 03/05/2025

Specialized for Calibration & Measurement
الشركة التخصصية للمعايرة والقياس

Instrument Details: Certificate No.: 2208/05/2025

Description : Digital Clamp Meter

Model No. : KYORITSU /KEW2117R

Serial No. : 0823925

Calibration Data

DC Voltage Range: 60.0 V /600 V Accuracy: 1.2 % ± 3 digits

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
50	50.503	VDC	50.5	0.003
150	150.00	VDC	149.8	0.20
300	300.34	VDC	300.3	0.04
400	400.90	VDC	400.7	0.20

Correction= Reference Mean Reading- Instrument Mean Reading

Resistance Range: 600 KΩ Accuracy: 2 % ± 3 digits

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
600	600.062	Ω	600.1	-0.038
6K	5999.7	Ω	5999	0.7
60K	5992.5	Ω	5991	1.5
600	600.1278	KΩ	600.11	0.01

Correction= Reference Mean Reading- Instrument Mean Reading

Performed by: Approved by:

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Issue date: 03/05/2025

Specialized for Calibration & Measurement

Certificate of Calibration

Customer Details:

Name:
Address: Amman - Jordan
Tel:

Job No.: 173/2024
Certificate No.: 1433/02/2024

Instrument Details:

Description : Contact/Non-contact Digital Tachometer
Model No : CEM-AT-10
Serial No : 200710738
Cal Date : 22/02/2024
Due Date : 22/02/2025
Cal Result : PASS

Calibration Standard Used:

Description	Serial No.	Cal date	Due Date
Hand -held stroboscope	220211	13/09/2023	13/09/2024

Calibration Procedure: SCMC/SOP-012

Calibration Environmental Condition:
Temp.: 22.5°C RH: 40 %

This is to certify that the instrument detailed above meets all the published specifications and has been calibrated with reference standards whose accuracies are traceable to National / International Standards. The deviations in the instrument reading are within the limits as per instrument specifications.
The calibration data is available in the succeeding report. The results given in the calibration report relate only to the measured values obtained at the time test and carry no implication regarding the long-term stability of the instrument

Calibration Data

Digital Tachometer Non-Contact Test Range 2 to 200,000 RPM Accuracy: ± (0.05% + 1digit)

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
100	100.0	RPM	100.04	-0.04
1000	1000	RPM	999.91	0.09
10000	10000	RPM	10004	-4
100000	100000	RPM	100014	-14

Correction = Reference Mean Reading - Instrument Mean Reading

Performed by:

Approved by:

الشركة التخصصية للمعايرة والقياس

FOR-CC-02

Page 1 of 1

Issue date: 24/02/2024

Specialized for Calibration & Measurement

Certificate of Calibration

Customer Details:

Name:

Address: Amman - Jordan

Tel:

Job No.: 173/2024

Certificate No.: 1432/02/2024

Instrument Details:

Description : Vane Anemometer

Model No : Testo/417

Serial No : 84231793

Cal Date : 22/02/2024

Due Date : 22/02/2025

Cal Result : PASS

Calibration Standard Used:

Description	Serial No.	Cal date	Due Date
Air velocity Meter	21029175	13/09/2023	13/09/2024

Calibration Procedure: MFR Specification

Calibration Environmental Condition:

Temp.: 20.5°C RH: 40.0%

This is to certify that the instrument detailed above meets all the published specifications and has been calibrated with reference standards whose accuracies are traceable to National / International Standards. The deviations in the instrument reading are within the limits as per instrument specifications. The calibration data is available in the succeeding report. The results given in the calibration report relate only to the measured values obtained at the time test and carry no implication regarding the long-term stability of the instrument

Calibration Data

Vane Anemometer Range: +0.3 to +20 m/s Accuracy: ± (0.1 m/s + 1.5 % of mv)

Test Point	Reference Mean Reading	Unit	Instrument Mean Reading	Correction
1	1.0	m/s	1.00	0.00
3	4.2	m/s	4.21	-0.01
5	5.1	m/s	5.11	-0.01
7	7.0	m/s	7.01	-0.01

Correction = Reference Mean Reading - Instrument Mean Reading

Performed by:

Approved by:

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Issue date: 24/02/2024