

WHAT IS A BALANCE REPORT?

The data presented in a NEBB Certified TAB Report accurately represents system measurements obtained in accordance with the current edition of the NEBB Procedural Standard for Testing, Adjusting, and Balancing of Environmental Systems. A NEBB-certified TAB report does not necessarily guarantee that the systems included are balanced to design flows. Any variances from design quantities that exceed NEBB tolerances or contract document tolerances are noted in the test-adjust-balance report project summary.

Required Information for a Testing and Balancing Report

Required: Designates any data, function, or action that must be gathered or performed to qualify as a NEBB-certified report, unless such data is impossible to gather or a given function or action cannot be performed. Any information or action that cannot be fulfilled in accordance with this procedural standard must be clearly explained in the final report summary.

SECTION 01815:9 TESTING,ADJUSTING,BALANCING



It delineates what is needed from the Contractor to perform the services of testing, adjusting, and balancing, and defines the Commissioning process regarding testing, adjusting, and balancing (TAB) all equipment and systems.

The systems requiring TAB might include the following, among others: heating, ventilation, air cooling and air conditioning, supply air, air exhaust systems, heating hot water, centrally cooled and/or chilled water, condenser water, special piping, and high purity piping. As part of the TAB work, a clean copy of the drawings and specifications should be obtained that can be marked with the variations (and any associated problems) found during the TAB reviews.

REQUIRED INFORMATION AIR APPARATUS TEST REPORT – FAN MANUFACTURER

☒ Unit Designation Design; b) Manufacturer Installed; c) Model Number Installed; d) Serial Number Installed; e) Type Installed; f) Service Design; g) Area Served Design; h) Location; i) Unit Cross Sectional Sketch or Static Pressure Profile Actual

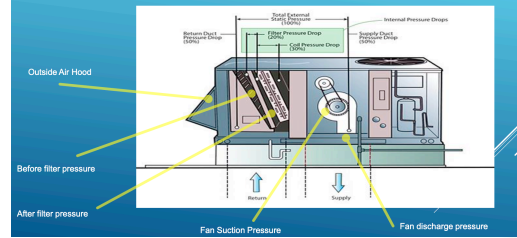
REQUIRED MOTOR INFORMATION

☒ Manufacturer Installed b) Horsepower Installed c) Frame Installed d) Full Load Amps Installed e) Service Factor Installed f) Volts Nameplate & Actual g) Corrected Nameplate Amps Actual h) Operating Amps Actual i) Brake Horsepower Actual

BELT DRIVE AIR APPARATUS

☒ Motor Sheave Manufacturer/PD/bore Installed b) Fan Sheave Manufacturer/PD/bore Installed c) C to C Distance Installed d) Belt Manufacturer/quantity/size Installed

TYPICAL ROOF TOP UNIT



FAN SHEET (AIR APPARATUS REPORT)

Ener-Tech Testing
 NISTE Certification #1410

Project: _____ **Unit Number:** _____
Area Served: _____ **Location:** _____

Fan Unit Data

Model	_____
Test Date	_____
Test Time	_____
Test Location	_____
Test Operator	_____
Test Results	_____

Motor Data

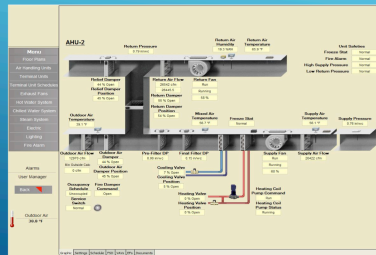
Manufacturer	_____
Model	_____
Test Date	_____
Test Time	_____
Test Location	_____
Test Operator	_____
Test Results	_____

Test Data

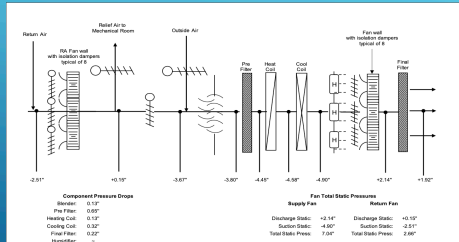
Test Date	Design	Actual
Test Date	_____	_____
Test Time	_____	_____
Test Location	_____	_____
Test Operator	_____	_____
Test Results	_____	_____

Roof Top Unit Schematic

BUILT UP AIR HANDLING UNIT SCHEMATIC



COMPONENT PRESSURE DROPS (BUILT UP AIR HANDLING UNIT)

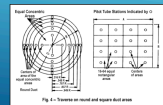


Building: DMC Childrens Hospital Critical Care Tower
System: AHU-1
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INFORMATION REQUIRED FOR A DUCT TRAVERSE TEST REPORT

- a) System Designation Design
- b) Unit Designation Design
- c) Reading Location Actual
- d) Reading Designation (Unique ID or Mode) Actual
- e) Instrument Used Actual
- f) CFM Design & Actual
- g) Dimension of Traversed Area Actual
- h) Sq. Ft. of Traversed Area Actual
- i) Cross Section Sketch Actual
- j) Velocity Readings in Grid Form Actual
- k) Average Velocity Actual
- l) Centerline Duct SP Actual
- m) Air Temperature Actual

DUCT TRAVERSE PITOT TUBE SPACING



DUCT TRAVERSE TEST REPORT

Ener-Tech Testing
NABCE Certified Installer

Project: _____ Area: _____ Unit: _____

Test Point: _____ Location: _____

Test Date: _____

Test Time: _____

Test Results:

Test Point	Area	Unit	Test Results
1	100	100	100
2	100	100	100
3	100	100	100
4	100	100	100
5	100	100	100
6	100	100	100
7	100	100	100
8	100	100	100
9	100	100	100
10	100	100	100
11	100	100	100
12	100	100	100
13	100	100	100
14	100	100	100
15	100	100	100
16	100	100	100
17	100	100	100
18	100	100	100
19	100	100	100
20	100	100	100
21	100	100	100
22	100	100	100
23	100	100	100
24	100	100	100
25	100	100	100
26	100	100	100
27	100	100	100
28	100	100	100
29	100	100	100
30	100	100	100
31	100	100	100
32	100	100	100
33	100	100	100
34	100	100	100
35	100	100	100
36	100	100	100
37	100	100	100
38	100	100	100
39	100	100	100
40	100	100	100
41	100	100	100
42	100	100	100
43	100	100	100
44	100	100	100
45	100	100	100
46	100	100	100
47	100	100	100
48	100	100	100
49	100	100	100
50	100	100	100

Average Actual Velocity

Actual CFM Velocity X Area

Duct Static Pressure at Reading

Temperature at Reading

Actual Velocity Measurement

Project Area
Service Unit
Number Location

Duct dimension
and square
footage

Design CFM

Design CFM
CFM / Area

DUCT TRAVERSE TEST REPORT

Project Area
Served, Unit
Number, Location

Duct dimension
and square
footage

Design CFM
CFM / Area

Ener-Tech Testing

Model Calculator 4.0.0.0 Duct Traverse
Test Report

Project _____ Service 100.000 Process _____ Unit Number _____ Location _____

Area Served _____ 100 ft Squares and Feet _____ Location _____

Duct Section		Duct Size		Duct Area		Duct Length		Duct Volume		Duct Capacity		Duct Velocity		Duct Pressure		Duct Temperature	
Section	Size	Area	Length	Volume	Capacity	Velocity	Pressure	Temperature	Section	Size	Area	Length	Volume	Capacity	Velocity	Pressure	Temperature
1	12" x 12"	144	100	14400	1000	100	100	100	2	12" x 12"	144	100	14400	1000	100	100	100
3	12" x 12"	144	100	14400	1000	100	100	100	4	12" x 12"	144	100	14400	1000	100	100	100
5	12" x 12"	144	100	14400	1000	100	100	100	6	12" x 12"	144	100	14400	1000	100	100	100
7	12" x 12"	144	100	14400	1000	100	100	100	8	12" x 12"	144	100	14400	1000	100	100	100
9	12" x 12"	144	100	14400	1000	100	100	100	10	12" x 12"	144	100	14400	1000	100	100	100
11	12" x 12"	144	100	14400	1000	100	100	100	12	12" x 12"	144	100	14400	1000	100	100	100
13	12" x 12"	144	100	14400	1000	100	100	100	14	12" x 12"	144	100	14400	1000	100	100	100
15	12" x 12"	144	100	14400	1000	100	100	100	16	12" x 12"	144	100	14400	1000	100	100	100
17	12" x 12"	144	100	14400	1000	100	100	100	18	12" x 12"	144	100	14400	1000	100	100	100
19	12" x 12"	144	100	14400	1000	100	100	100	20	12" x 12"	144	100	14400	1000	100	100	100
21	12" x 12"	144	100	14400	1000	100	100	100	22	12" x 12"	144	100	14400	1000	100	100	100
23	12" x 12"	144	100	14400	1000	100	100	100	24	12" x 12"	144	100	14400	1000	100	100	100
25	12" x 12"	144	100	14400	1000	100	100	100	26	12" x 12"	144	100	14400	1000	100	100	100
27	12" x 12"	144	100	14400	1000	100	100	100	28	12" x 12"	144	100	14400	1000	100	100	100
29	12" x 12"	144	100	14400	1000	100	100	100	30	12" x 12"	144	100	14400	1000	100	100	100
31	12" x 12"	144	100	14400	1000	100	100	100	32	12" x 12"	144	100	14400	1000	100	100	100
33	12" x 12"	144	100	14400	1000	100	100	100	34	12" x 12"	144	100	14400	1000	100	100	100
35	12" x 12"	144	100	14400	1000	100	100	100	36	12" x 12"	144	100	14400	1000	100	100	100
37	12" x 12"	144	100	14400	1000	100	100	100	38	12" x 12"	144	100	14400	1000	100	100	100
39	12" x 12"	144	100	14400	1000	100	100	100	40								

INFORMATION REQUIRED ON AN AIR OUTLET/INLET TEST REPORT

AK DEVELOPMENT (AIR COEFFICIENT) FOR REGISTERS AND GRILLE



Forced - Air HVAC System

Labels in diagram: Supply register, Plenum, Supply Ducts, Return Register, Return Duct, Forced air Furnace, Air Handler.

STEP 1: Duct leakage performed in the duct for actual CFM to the outlet

STEP 2: Velocity measured using the appropriate instrument (Shortridge Velogrid or Aniflow, Rotating Vane Anemometer)

STEP 3: Calculate the AK of the register or grille
 $CFM / \text{Velocity} = AK$




- VARIABLE AIR VOLUME BOX (AIR TERMINAL UNIT)

[illegible][illegible]

Motor Manufacturers Information

Motor Drive Data

Fan Static Pressures

Inlet / Outlet Temperature Data

LABORATORY FUME HOOD SNAKE FACE VELOCITY FORM



Laboratory Fume Hood Snake Face Velocity Form

Project Name: Availa M. Clements - IMB Building 2017 Yearly Testing

Lab Number: Lab 7

Project, Lab Number

Lab/Room Number

Fan Number

Hood Snake Size

Average Velocity of Readings

Achieved CFM (Velocity X Area)

100 CFM Snake Velocity Snake Length				
Lab Number	Fan Number	Snake Width (in)	Snake Length (in)	Snake Velocity (ft/min)
100	85	12	48	11
101	86	30	88	81
102	87	30	88	81
103	88	30	88	81
104	89	30	88	81
105	90	30	88	81
106	91	30	88	81
107	92	30	88	81
108	93	30	88	81
109	94	30	88	81
110	95	30	88	81
111	96	30	88	81
112	97	30	88	81
113	98	30	88	81
114	99	30	88	81
115	100	30	88	81

100 CFM Snake Velocity Snake Length				
Lab Number	Fan Number	Snake Width (in)	Snake Length (in)	Snake Velocity (ft/min)
100	85	12	48	11
101	86	30	88	81
102	87	30	88	81
103	88	30	88	81
104	89	30	88	81
105	90	30	88	81
106	91	30	88	81
107	92	30	88	81
108	93	30	88	81
109	94	30	88	81
110	95	30	88	81
111	96	30	88	81
112	97	30	88	81
113	98	30	88	81
114	99	30	88	81
115	100	30	88	81

Measured velocities at the snake opening

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Date: 2/13/2017

