

Report By:

National TAB
1329 E. KEMPER ROAD
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CINCINNATI, OH 45246

NATIONAL

TAB

Comfort. Under control.

Report: PRELIM

Function: Test, Adjust, & Balance

Date: 11/02/2022

PROJECT

10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

1460 EASTCHASE PKWY

FORT WORTH, TX

Client

EG Mechanical Services

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

Table Of Contents

Section	Page #
AHU/RTU	3
FAN - Exhaust	13

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: AHU/RTU



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Asset: RTU-1

AREA:101

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622G06774
Model Num	LGH150H4M41G	LGH150H4MH2G
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	5000	5530
SF RPM	-	1009
RA CFM	3700	4155
OA CFM	1300	1375
RL Voltage	-	478/477/478
RL Amperage	-	5.6/5.4/5.5
OA Damper Position	-	40%
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	US MOTORS
Frame	-	184TZ
Horsepower	-	5
Motor Rpm	-	1765
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	6.50
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.44"
Fan Suction SP	-	-1.05"
Fan Discharge SP	-	0.82"
Total ESP	0.80"	1.26"
Fan Total SP	-	1.87"

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP60
Motor Bore Size	-	1.125"
Motor Sheave SetPt	-	2.5 TURNS OUT
Fan Sheave Size	-	BK77
Fan Sheave Bore	-	1"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	BX59

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

AHU/RTU



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Diffuser Supply (GRD)

RTU-1/101

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	101	CD D	24"X24"	4050			-
SGRD2	100	CD B	10"	350	1		-
SGRD3	102	CD A	8"	250	1		-
SGRD4	103	CD A	10"	350	1		-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-2

AREA:101

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622G06904
Model Num	LGH120H4MH1G	LGH120H4MH4G
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	4000	5093
SF RPM	-	902
RA CFM	2960	3991
OA CFM	1040	1102
RL Voltage	-	480/481/480
RL Amperage	-	3.6/3.8/3.9
OA Damper Position	-	33%
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.0
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.41"
Fan Suction SP	-	-0.83"
Fan Discharge SP	-	0.71"
Total ESP	0.60"	1.12"
Fan Total SP	-	1.54"

Drive Data		
	Design	Actual
Motor Sheave Size	-	VP50
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	AX58

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Notes: TOTAL AIRFLOW IS SIGNIFICANTLY HIGH. MOTOR SHEAVE DIAMETER MINIMIZED TO SLOW DOWN THE FAN SPEED AS MUCH AS POSSIBLE.

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

RTU-2/101

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	101	CD D	24"X24"	4000					-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: AHU/RTU



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Asset: RTU-3

AREA:101

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622G06444
Model Num	LGH120H4MH1G	LGH120H4MH4G
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	4000	
SF RPM	-	
RA CFM	2960	
OA CFM	1040	
RL Voltage	-	
RL Amperage	-	
OA Damper Position	-	
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.0
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.60"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP50
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	AX58

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Notes: UNIT BREAKER TRIPPED. NOT OPERATING.

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

AHU/RTU



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Diffuser Supply (GRD)

RTU-3/101

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	101	CD D	24"X24"	4000			-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: AHU/RTU



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Asset: RTU-4

AREA:104

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622G06839
Model Num	LGH120H4MH1G	LGH120H4MH4G
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	4000	5870
SF RPM	-	
RA CFM	3400	
OA CFM	600	
RL Voltage	-	
RL Amperage	-	
OA Damper Position	-	
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.0
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.60"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP50
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	5 TURNS OUT
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	AX58

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Notes: MOTOR SHEAVE MINIMIZED AS MUCH AS POSSIBLE.

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AHU/RTU



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Diffuser Supply (GRD)

RTU-4/104

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	104	CD D	24"X24"	3450			-
SGRD2	106	CD A	10"	400			-
SGRD3	107	CD C	6"	75			-
SGRD4	108	CD C	6"	75			-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU-5

AREA:104

Unit Data		
	Design	Actual
MFG	LENNOX	LENNOX
Serial Num	-	5622G0643
Model Num	LGH120H4MH1G	LGH120H4MH4G
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	23X14
Num PreFilter 1	-	4
PreFilter Size 1	-	20X25X2

Test Data		
	Design	Actual
SF CFM	4000	5155
SF RPM	-	
RA CFM	3400	
OA CFM	600	
RL Voltage	-	
RL Amperage	-	
OA Damper Position	-	
Brake Horse Power	-	

Motor Data		
	Design	Actual
Motor MFG	-	INTERLINK
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	-	3
Rated Voltage	-	460
Rated Amperage	-	4.0
Service Factor	-	1.15

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.60"	
Fan Total SP	-	

Drive Data		
	Design	Actual
Motor Sheave Size	-	1VP50
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	AX58

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

AHU/RTU



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Diffuser Supply (GRD)

RTU-5/104

Asset							
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	FINAL CFM	% to design
SGRD1	104	CD D	24"X24"	4000			-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF1

AREA:

Unit Data		
	Design	Actual
MFG	NA	ZHONGSHAN
Model Num	CEILING	CEILING
Serial Num	-	12-2021

Test Data		
	Design	Actual
CFM	100	67

Motor Data		
	Design	Actual
Motor MFG	-	NR
Horsepower	-	NR
Motor Rpm	1400	NR
Phase	1	NR
Voltage (rated)	120	NR
Amperage (rated)	-	NR

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	NA	ZHONGSHAN
Model Num	CEILING	CEILING
Serial Num	-	04-2022

Test Data		
	Design	Actual
CFM	100	75

Motor Data		
	Design	Actual
Motor MFG	-	NR
Horsepower	-	NR
Motor Rpm	1400	NR
Phase	1	NR
Voltage (rated)	120	NR
Amperage (rated)	-	NR

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF3

AREA:102

Unit Data		
	Design	Actual
MFG	NA	FANTECH
Model Num	DD	FG8
Serial Num	-	1003425190
Type	INLINE	INLINE

Test Data		
	Design	Actual
CFM	250	251
RL Voltage	-	121
RL Amperage	-	0.80
Total ESP	-	0.50"

Motor Data		
	Design	Actual
Motor MFG	-	FANTECH
Frame	-	NL
Horsepower	-	NL
Motor Rpm	2550	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.99
Service Factor	-	NL

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

FAN - Exhaust



Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF3/102

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	EG A	8"X8"	250					-

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Project: 10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF4

AREA:103

Unit Data		
	Design	Actual
MFG	NA	FANTECH
Model Num	DD	FG8
Serial Num	-	1006425190
Type	INLINE	INLINE

Test Data		
	Design	Actual
CFM	350	270
RL Voltage	-	119
RL Amperage	-	0.69
Total ESP	-	0.50"

Motor Data		
	Design	Actual
Motor MFG	-	FANTECH
Frame	-	NL
Horsepower	-	NL
Motor Rpm	3000	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	0.99
Service Factor	-	1

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Notes: TOTAL AIRFLOW LOW, NO SIGNS OF OBSTRUCTIONS OR KINKS IN THE FLEX DUCT.

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Project:10-17 HARBOR FREIGHT TOOLS - FORT WORTH, TX

FAN - Exhaust



Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF4/103

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD1	EG A	10"X10	350					-

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