

SUBMITTAL TRANSMITTAL

To: Bryce Ernsthausen Reviewed By: Drew Koenig
Company: Triton Services Date: 2/19/24
Project: Montgomery County Administration Building 10th Floor Renovation

- Approved Approved as Noted
 Revise & Resubmit Rejected

Checking is only for conformance with the design concept of the project and compliance with the information given in the Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to techniques of construction; and for coordination of the work of all trades.

Specification Section	Description
-	Terminal Units

Notes:

1. Airflow setpoints when programmed in field shall match schedule on drawings. Airflow minimums listed in submittal shall not be programmed in field. Each hot or cold deck shall be permitted to modulate closed to 0 cfm airflow if conditions dictate.

HABEGGER

Fabrication Division

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Submittals

Prepared By: Habegger Fabrication Division
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Cincinnati, Ohio, 45215
Chalk Fry III

Contractor: **Triton Services**

Job: Montgomery County Admin Bldg- 10th Floor

Date: 1/25/2024

Submittal Table of Contents

Krueger Submittalk

Dual Duct Terminal Unit Schedule

Montgomery County Admin Bldg- 10th Floor

Tag	AHU Tag	Room	Model	Size			Cold CFM		Hot CFM		Static Pressure			NC Levels		Unit Information
				Cold	Hot	Outlet	Max	Min	Max	Min	Inlet	Down	Min	Rad.	Disch.	Hand
VAV-10-07			LMHDT	06	06	6.9x6.9	150	52	100	52	1	0.25	0.06	14	20	LH
VAV-10-08			LMHDT	08	08	8.9x8.9	300	100	300	100	1	0.25	0.07	25	21	LH
VAV-10-09			LMHDT	06	06	6.9x6.9	200	75	100	75	1	0.25	0.11	18	23	LH
VAV-10-10			LMHDT	09	09	9.9x9.9	600	116	450	116	1	0.25	0.16	24	20	LH
VAV-10-11			LMHDT	09	09	9.9x9.9	600	170	240	170	1	0.25	0.16	24	20	LH
VAV-10-12			LMHDT	08	08	8.9x8.9	300	92	250	92	1	0.25	0.07	25	21	LH
VAV-10-13			LMHDT	08	08	8.9x8.9	250	125	250	125	1	0.25	0.05	22	22	LH
VAV-10-14			LMHDT	08	08	8.9x8.9	250	125	250	125	1	0.25	0.05	22	22	LH
VAV-10-15			LMHDT	08	08	8.9x8.9	450	92	375	92	1	0.25	0.16	29	26	LH
VAV-10-16			LMHDT	09	09	9.9x9.9	500	116	375	116	1	0.25	0.11	21	18	LH
VAV-10-17			LMHDT	08	08	8.9x8.9	300	92	225	92	1	0.25	0.07	25	21	LH
VAV-10-18			LMHDT	08	08	8.9x8.9	400	92	325	92	1	0.25	0.13	28	25	LH
VAV-10-19			LMHDT	10	10	9.9x9.9	650	163	450	162	1	0.25	0.19	21	18	LH
VAV-10-20			LMHDT	10	10	9.9x9.9	620	175	345	175	1	0.25	0.17	21	18	LH
VAV-10-21			LMHDT	08	08	8.9x8.9	300	92	275	92	1	0.25	0.07	25	21	LH
VAV-10-22			LMHDT	09	09	9.9x9.9	550	116	450	116	1	0.25	0.14	22	19	LH
VAV-10-23			LMHDT	09	09	9.9x9.9	550	200	300	200	1	0.25	0.14	22	19	LH
VAV-10-24			LMHDT	08	08	8.9x8.9	400	150	160	150	1	0.25	0.13	28	25	LH
VAV-10-25			LMHDT	09	09	9.9x9.9	500	116	300	116	1	0.25	0.11	21	18	LH
VAV-10-26			LMHDT	08	08	8.9x8.9	250	92	200	92	1	0.25	0.05	22	22	LH
VAV-10-27			LMHDT	08	08	8.9x8.9	350	92	300	92	1	0.25	0.1	27	22	LH
VAV-10-28			LMHDT	08	08	8.9x8.9	250	92	200	92	1	0.25	0.05	22	22	LH
VAV-10-29			LMHDT	08	08	8.9x8.9	450	113	225	112	1	0.25	0.16	29	26	LH
VAV-10-30			LMHDT	08	08	8.9x8.9	320	160	320	160	1	0.25	0.08	26	21	LH
VAV-10-31			LMHDT	08	08	8.9x8.9	200	92	160	92	1	0.25	0.03	20	18	LH

- Notes:
1. Selections are based on Krueger as Manufacturer.
 2. Room NC level shown includes attenuation transfer functions obtained from tables in AHRI Standard 885. "-" indicates a value less than 10.
 3. Sound data obtained from tests conducted in accordance with AHRI Standard 880-11 and corrected for end reflection.
 4. Min static pressure is the pressure loss through the unit.
 5. All airflow, pressure and heating performance values are corrected for altitude.
 6. Units of Measure: Airflow (CFM), Dimensions (inches), Static Pressure (inches W.G.), Temperature (degree F).
 7. Min CFM can be selected down to a 0.01" signal from the inlet sensor. Recommended Min CFM is based on 0.03".

CFM increased to minimums where needed
 Confirm handedness prior to release

*Results are an aid only and are not a substitute for professional design services.
 Krueger accepts no liability for the adequacy of any resulting design or installation.
 All data subject to change without notice.*

Single Duct Terminal Unit Schedule

Montgomery County Admin Bldg- 10th Floor

Tag	AHU Tag	Room	Model	Size		CFM		Static Pressure			NC Levels		Electric Heat Coil						Electrical		Unit Information	
				Unit	Outlet	Max	Min	Inlet	Down	Min	Rad.	Disch.	CFM	KW	Volts/Ph.	Stages	EAT	LAT	MCA	MOP	Hand	
VAV-10-32			LMHS	06	12x8	200	0	1	0.25	0.02	11	14			/							LH
VAV-10-33			LMHS	10	14x12.5	550	0	1	0.25	0.02	-	13			/							LH
VAV-10-34			LMHS	08	12x10	350	0	1	0.25	0.02	13	16			/							LH
VAV-10-35			LMHS	08	12x10	350	0	1	0.25	0.02	13	16			/							LH
VAV-10-36			LMHS	08	12x10	275	0	1	0.25	0.02	11	17			/							LH

- Notes:
1. Selections are based on Krueger as Manufacturer.
 2. Room NC level shown includes attenuation transfer functions obtained from tables in AHRI Standard 885. "-" indicates a value less than 10.
 3. Sound data obtained from tests conducted in accordance with AHRI Standard 880-11 and corrected for end reflection.
 4. Min static pressure is the pressure loss through the unit.
 5. All airflow, pressure and heating performance values are corrected for altitude.
 6. Units of Measure: Airflow (CFM), Dimensions (inches), Static Pressure (inches W.G.), Temperature (degree F).
 7. Min CFM can be selected down to a 0.01" signal from the inlet sensor. Recommended Min CFM is based on 0.03".
 8. In the "Stages" column, code "LH" denotes a LineaHeat proportional controlled heater.
 9. MCA designates connected amps. Value does not include control amps. MOP designates maximum fuse size in amps.

Confirm handedness prior to release

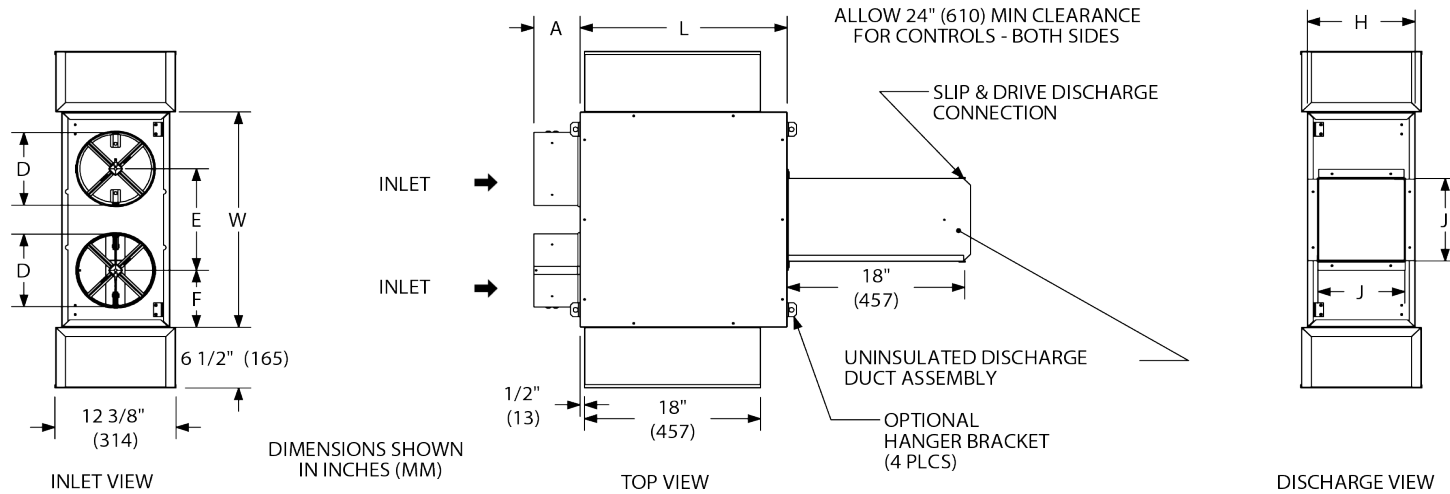
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LMHDT

Hot and Cold Inlet, Integral Attenuator, and Mixing Chamber

Main Product

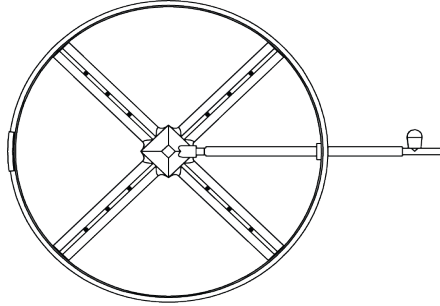
LMHDT



- Cold Inlet designates unit casing hand and size.
- Includes two single blade, heavy gage steel dampers with foam gasketing.
- Two NEMA 1 steel control enclosures for electric or electronic components.
- Flow sensor shown above may not be actual provided sensor. See details below for actual sensor.

Feature Benefits

3C - K4 LineaCross - Cold & Hot



- 12-point total pressure, center averaging flow cross-type design.
- Equal area layout.
- Complies with ASHRAE's recommended measurement points for accurate determination of duct air velocity.
- $CFM = K \cdot (\Delta P)^{1/2}$
- Where CFM = ft³/minute, ΔP = Pressure Differential ("WG) and K = Sensor Constant

Cold Inlet	K (cold)	Hot Inlet	K (hot)
06 - 6 Inch	515	06 - 6 Inch	515
08 - 8 Inch	916	08 - 8 Inch	916
09 - 9 Inch	1160	09 - 9 Inch	1160
10 - 10 Inch	1432	10 - 10 Inch	1432

Construction Detail

1/2" thick, Dual Density Fiberglass Liner

Physical Properties

- Material : Dual Density Fiberglass
- Thickness : 1/2 inch
- R-Value : 1.9 @ 75°F
- Density : 1.5 lbs/ft³ with 4.0 lbs/ft³ Face
- Maximum Operating Temperature : 250°F (121°C)
- Maximum Air Velocity : 3600 FPM
- Flame Spread : Less than 25
- Smoke Density : Less than 50
- Mold Growth and Humidity : None
- Edge Treatment : Sealant (NFPA 90A Approved)

Code Compliances

- UL 181 : Air Erosion
- UL 181 : Mold Growth and Humidity
- UL 723 : Flame / Smoke Spread (25/50)
- NFPA 255 : Flame / Smoke Spread (25/50)
- NFPA 90A & 90B : Appliances
- ASTM E84 : Flame / Smoke Spread (25/50)
- ASTM C1071 : Fiberglass Duct Liner

WARNING:



THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING FORMALDEHYDE,
WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.
For more information, go to www.P65Warnings.ca.gov.

Listing Image(s)



• AHRI certified sound data.

OptionSchedule

Configuration 0 - Standard
Casing 0L - LH Controls,22 Gauge
Liner 0 - Standard
Sensor 3C - K4 LineaCross - Cold & Hot
Control D001 - Enclosure w/o TRAN
Ctrl Accy 1 0 - None
Ctrl Accy 2 0 - None
Transformer 0 - None
Unit Accy 1 D - Disconnect For Controls
Unit Accy 2 S - Hangers
Unit Accy 3 0 - None
Metric N - No (enter airflow as CFM)

OptionSchedule (continued)

ID	Quantity	Tag	Cold Inlet	Cold CFM Max	Cold CFM Min	Hot Inlet	Hot CFM Max
1	1	VAV-10-07	06 - 6 Inch	150	52	06 - 6 Inch	100
2	1	VAV-10-08	08 - 8 Inch	300	100	08 - 8 Inch	300
3	1	VAV-10-09	06 - 6 Inch	200	75	06 - 6 Inch	100
4	1	VAV-10-10	09 - 9 Inch	600	116	09 - 9 Inch	450
5	1	VAV-10-11	09 - 9 Inch	600	170	09 - 9 Inch	240
6	1	VAV-10-12	08 - 8 Inch	300	92	08 - 8 Inch	250
7	1	VAV-10-13	08 - 8 Inch	250	125	08 - 8 Inch	250
8	1	VAV-10-14	08 - 8 Inch	250	125	08 - 8 Inch	250
9	1	VAV-10-15	08 - 8 Inch	450	92	08 - 8 Inch	375
10	1	VAV-10-16	09 - 9 Inch	500	116	09 - 9 Inch	375
11	1	VAV-10-17	08 - 8 Inch	300	92	08 - 8 Inch	225
12	1	VAV-10-18	08 - 8 Inch	400	92	08 - 8 Inch	325
13	1	VAV-10-19	10 - 10 Inch	650	163	10 - 10 Inch	450
14	1	VAV-10-20	10 - 10 Inch	620	175	10 - 10 Inch	345
15	1	VAV-10-21	08 - 8 Inch	300	92	08 - 8 Inch	275
16	1	VAV-10-22	09 - 9 Inch	550	116	09 - 9 Inch	450
17	1	VAV-10-23	09 - 9 Inch	550	200	09 - 9 Inch	300
18	1	VAV-10-24	08 - 8 Inch	400	150	08 - 8 Inch	160
19	1	VAV-10-25	09 - 9 Inch	500	116	09 - 9 Inch	300
20	1	VAV-10-26	08 - 8 Inch	250	92	08 - 8 Inch	200
21	1	VAV-10-27	08 - 8 Inch	350	92	08 - 8 Inch	300
22	1	VAV-10-28	08 - 8 Inch	250	92	08 - 8 Inch	200
23	1	VAV-10-29	08 - 8 Inch	450	113	08 - 8 Inch	225
24	1	VAV-10-30	08 - 8 Inch	320	160	08 - 8 Inch	320
25	1	VAV-10-31	08 - 8 Inch	200	92	08 - 8 Inch	160

Hot CFM Min
52
100
75
116
170
92
125

OptionSchedule (continued)

125
92
116
92
92
162
175
92
116
200
150
116
92
92
92
112
160
92

Dimension Table

Cold Inlet	Hot Inlet	L	W	H	A-Cold	A-Hot	D-Cold	D-Hot	E	F	J
06 - 6 Inch	06 - 6 Inch	17.9375	19.1875	8.875	4.875	6.875	5.875	5.875	8.9375	5	6.875
08 - 8 Inch	08 - 8 Inch	21.1875	23.1875	10.875	4.875	4.875	7.875	7.875	10.9375	6	8.875
09 - 9 Inch	09 - 9 Inch	30.625	27.1875	13.875	4.875	4.875	8.875	8.875	12.9375	7	9.875
10 - 10 Inch	10 - 10 Inch	30.625	27.1875	13.875	4.875	4.875	9.875	9.875	12.9375	7	9.875

LMHS Analog-DDC Controls

Single Duct Terminal Unit

Main Product

LMHS Analog-DDC Controls

- Unit includes a single blade, heavy gage steel damper with foam gasketing.
- NEMA 1 steel control enclosures for electric or electronic components.
- Flow sensor shown above may not be actual provided sensor. See details below for actual sensor.
- Right Hand configuration shown, Left Hand available.

Main Product (continued)

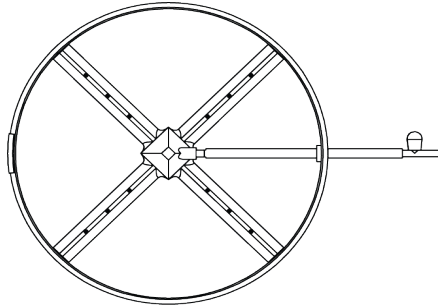
Inlet	X
06 - 6 Inch	7.25
10 - 10 Inch	5.25
08 - 8 Inch	7.25

Feature Benefits

0 - Standard

Inlet	Casing	L	W	H	A	B	C	D
06 - 6 Inch	0L - LH Controls,22 Gauge	15.5	12	8	3.375	-	2.125	5.875
10 - 10 Inch	0L - LH Controls,22 Gauge	15.5	14	12.5	3.375	-	-	9.875
08 - 8 Inch	0L - LH Controls,22 Gauge	15.5	12	10	3.375	-	1.125	7.875

3 - K4 LineaCross 4 Quad



- 12-point total pressure, center averaging flow cross-type design.
- Equal area layout.
- Complies with ASHRAE's recommended measurement points for accurate determination of duct air velocity.
- $CFM = K \cdot (\Delta P)^{1/2}$
- Where CFM = ft³/minute, ΔP = Pressure Differential ("WG) and K = Sensor Constant

Inlet	K
06 - 6 Inch	515
10 - 10 Inch	1432
08 - 8 Inch	916

Construction Detail

1/2" thick, Dual Density Fiberglass Liner

Physical Properties

- Material : Dual Density Fiberglass
- Thickness : 1/2 inch
- R-Value : 1.9 @ 75°F
- Density : 1.5 lbs/ft³ with 4.0 lbs/ft³ Face
- Maximum Operating Temperature : 250°F (121°C)
- Maximum Air Velocity : 3600 FPM
- Flame Spread : Less than 25
- Smoke Density : Less than 50
- Mold Growth and Humidity : None
- Edge Treatment : Sealant (NFPA 90A Approved)

Code Compliances

- UL 181 : Air Erosion
- UL 181 : Mold Growth and Humidity
- UL 723 : Flame / Smoke Spread (25/50)
- NFPA 255 : Flame / Smoke Spread (25/50)
- NFPA 90A & 90B : Appliances
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Listing Image(s)



• AHRI certified sound data.

OptionSchedule

Configuration 0 - Standard
 Casing 0L - LH Controls,22 Gauge
 HW Coil 000 - None
 Elec Coil 000 - None
 Control D001 - Enclosure w/o TRAN or E-HEAT w/ TRAN INC
 Liner 0 - Standard
 Sensor 3 - K4 LineaCross 4 Quad
Transformer 0 - None
Coil Accy 1 0 - None
Coil Accy 2 0 - None
Coil Accy 3 0 - None
Coil Accy 4 0 - None
Coil Accy 5 0 - None
Unit Accy 1 S - Hangers
Unit Accy 2 0 - None
Unit Accy 3 0 - None
Unit Accy 4 0 - None
Unit Accy 5 0 - None
Ctrl Accy 1 0 - None
Ctrl Accy 2 0 - None
 Outlet 0 - Standard Rectangular
 Metric N - No (enter airflow as CFM)

OptionSchedule (continued)

ID	Quantity	Tag	Inlet	Max CFM	Min CFM	Heat CFM	KW
1	1	VAV-10-32	06 - 6 Inch	200	0	0	0
2	1	VAV-10-33	10 - 10 Inch	550	0	0	0
3	1	VAV-10-34	08 - 8 Inch	350	0	0	0
4	1	VAV-10-35	08 - 8 Inch	350	0	0	0
5	1	VAV-10-36	08 - 8 Inch	275	0	0	0