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## **JOB NAME:**

# WE ARE PLEASED TO PROVIDE THE ENCLOSED SUBMITTAL FOR YOUR REVIEW AND APPROVAL

		EQUIPMENT DE	TAILS
ITEM	TAG	DESCRIPTION	MODEL NUMBER
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

		EQUIPMENT ACCE	SORIES
ITEM	TAG	DESCRIPTION	MODEL NUMBER
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			



	CC	OOLING COIL		
AIRFLOW				
ALTITUDE FT				
ESP				
MOTOR HP				
MOTOR VOLTAGE				
APD (IN OF WATER)				
FIN HEIGHT/LENGHT				
ROWS/FPI				
ENT AIR DB/WB				
LVG AIR DB/WB				
TOTAL COOLING MBH				
SENSIBLE COOLING MBH				
SATURATED SUC TEMP				
LIQUID TEMP				
REF PD PSI				
FLUID PD FT H2O				
REFRIGERANT TYPE				
FLUID VELOCITY				

	НОТ	WATER COIL	ı		
PREHEAT					
REHEAT					
APD (IN OF WATER)					
ROWS/FPI					
FIN HEIGHT/LENGHT					
ENT DB/WB					
TOTAL COOLING MBH					
LEAV AIR TEMP ºF					
ENTERING WATER TEMP					
LEAVING WATER TEMP					
WATER FLOW (GPM)					

	OPTIONAL ELECTRIC HEAT														
ELEC HTR CAPACITY															
HTR ELEC DETAILS															
NUMBER OF STAGES															
STANDARD CONTROLS															
SRC CONTROLS															









## SIZES FROM 600 CFM TO 9,000 CFM

All Technical Specifications are Subject to Change without Notice. For more information contact Customer Service Phone (817)624.0820 Fax (817)624.8581



#### STANDARD FEATURES

#### CONSTRUCTION

- -Single and Double wall post and panel construction from heavy gauge galvanized steel.
- -1" Insulation sandwiched between double wall galvanized panels.
- -1" foil faced insulation on single wall units.
- -IAQ drain pan sloped 3-ways.
- -Drain pans made from 304 stainless steel.
- -Integral auxiliary drain pan.
- -Both sides of cabinet include gasket, service access panels.
- -Factory installed mounting rails provided for unit suspension system on units up to 3000 cfm. Capped Knockouts to be provided for units over 3000 cfm and larger to accommodate threaded rods to pass through unit corners
- -All cabinet parts are assembled with stainless steel hardware.
- -All access panels can be removed while unit is suspended without affecting the unit's structure.

#### **BLOWER ASSEMBLY**

- -Blower sections feature base mounted motors and adjustable motor bases for ease of service mounted on RIS isolators for quite vibration free operation.
- -All blowers are mounted to 12-gauge support channels on rubber
- -Blower exits cabinet through flexible rubber isolators.
- -A discharge duct flange is provided.

#### FILTER SECTION

-2" TA flat filters are single wall standard.

## COIL SECTION

- -3/8",1/2" or 5/8" O.D. seamless copper tube on sizes 24 and 240  $\,$
- -Coil and drain pan assembly slides into cabinet from either side of unit for left hand or right hand piping and electrical connections.
- -Units can accept up to 10 rows of coil without modification.
- -Manual air vents are accessible

## STANDARD MOTORS

- -ODP Motor is mounted to a 12 gauge adjustable base attached to the unit floor with rubber isolators
- -115/230v 1ph, 277v 1ph, 208/230/460v 3ph.
- -All units are ETL listed.

#### OPTIONAL FEATURES

#### CONSTRUCTION

- -Liner options include stainless steel, aluminum, or Anti-microbial coating. (double wall only)
- -Powder coated cabinet.
- -Pre-painted steel cabinet
- -1/2" foil faced and 7/8 closed cell are offered on single wall units.

#### FILTER SECTION

- -Double wall filter section accepts 2" or 4" flat filters.
- -Filter access can be from top, bottom or from either side (24-60).
- -Filter access for (90-240) from sides only.
- -2" pleated (30%), 4" pleated (65%, 85%, 95%).

#### -MIXING BOXES

- \*MB3-\*\* Mixing Box with 3 position Manual Control (Non filtered)
- \*MBM-\*\* Mixing Box with Modulating Actuator Control (Non Filtered)
- \*FMB3-\*\* Filtered Mixing Box w/3position Manual Control (2" TA Filter)
- \*FMBM-\*\* Filtered Mixing Box w/ Mod. Act. Control (2" TA Filter)
- \*FS-\*\* Return Filter Sec. w/ MERV-7 30% Pre Filter & MERV-11 65% Fin. Filter
- \*DFS-\*\* Discharge Filter Section w/12" MERV-15 & 95%
- **HEPA Filters** \*MSS-\*\* Motor Stop/Start Station VDP\*\* Vertical Discharge Plenum
- VRG\*\* Return Grill for Vertical Unit

#### ELECTRIC HEAT SECTION

- -Factory Supplied for Field Mounting
- Reheat Configurations.
- -Single point power connection.
- -Custom staging and controls.
- -Available Voltages: Single phase (115v, 230v, 277v) Three phase (208v, 230v, 460v, 575v)

VFD'S - Variable Frequency Drives

Available for Field installation for motors bigger than 1 hp

## COIL SECTION

- -2, 4, 6, 8 or 10 row coil options. (8 row max on 180/240)
- -Heating coils are factory installed in preheat or reheat positions.
- -Steam coils-Low Pressure, less than 2 PSI.
- -Optional tube diameters.
- Optional copper fin.
- -Optional stainless steel end plates.
- -Face split, row split, intertwined circuiting available.
- -Face and bypass dampers.
- -Automatic air vents.

## MOTOR OPTIONS

- -TEFC
- -High efficient.
- -2-speed 2-winding.
- -575 volt



#### **GUIDE SPECIFICATIONS**

#### Unit Description:

Rooftop belt drive with optional chilled water, hot water, steam or DX coils. Galvanized steel cabinet can be double or single wall construction. Unit designated to be installed in above ceiling space. Units have full service access from both sides of the cabinet.

#### Quality Assurance:

Coils are factory tested under water at 500 psig for operating pressures to 400 psig. Insulation and adhesive shall meet the NFPA-90A standard for smoke and flame spread.

#### Delivery, Handling and Storage:

Units have to be stored and handled in accordance with equipment manufacturer's recommendations.

#### **PRODUCTS**

#### Equipment:

A. Factory assembled, horizontal, draw-thru blower coil units, for installation above the ceiling. Units shall be complete with chilled or hot water, steam or DX coils, fans and motor, belt and drives, drain pan and filter rack to accept 2" or 4" TA filters.

#### Cabinet, Single wall:

B. Post and panel construction shall be from heavy gauge galvanize steel, lined with 1" 1.5 lb density and 0.5" as an option fiber glass Thermal acoustical insulation 7/8" closed cell is offered as an option too. Unit sizes 024 to 060 include a factory mounted suspension rail mounted to the bottom of the unit. Capped Knockouts to be provided for units over 3000 cfm and larger to accommodate threaded rods to pass through unit corners. Supply and return flanges to be 1" long. Large removable access panels shall be on both sides of unit.

#### Cabinet, Double wall:

C. Post and panel construction shall be from heavy gauge galvanize steel, lined with 1" 1.5 lb density fiber glass Thermal acoustical insulation, lined with smooth galvanized steel. Unit sizes 024 to 060 include a factory mounted suspension rail mounted to the bottom of the unit. Capped Knockouts to be provided for units over 3000 cfm and larger to accommodate threaded rods to pass through unit corners. Supply and return flanges to be 1" long. Large removable access panels shall be on both sides of unit.

## Drain Pan:

 The primary shall be stainless steel and include a built in overflow pan with a 1" MPT secondary and a 1" MPT primary drain connection. Secondary drain shall be galvanized or stainless steel to prevent corrosion should an overflow occur.

#### Coil Section:

 Entire coil section cabinet shall be double wall lined with smooth galvanized steel for easy cleaning and coil removal.

#### Blowers:

F. Belt Drive DWDI (double with, Double Inlet) fan wheel shall be forward curved blades and be factory statically and dynamically balanced. Blower's drives shall consist of cast iron variable pitch motor pulley and V-belt. Blowers and scrolls shall be manufactured from galvanized steel.

#### Coils:

G. Coil tube diameters shall be 0.375", 0.50" or 0.625" OD copper tubes, aluminum fins mechanically bonded to the tubes and have a working pressure of 250 psig at 200 °F. Each water coil shall have manual air vents and sweat connections, which have to be accessible from the exterior of cabinet. Coils shall be circuited so they can be switched from right to left hand piping access while maintaining counter flow water circuiting.

#### Motors:

H. Motors shall be Open Type, Drip Proof, single or 2 speed, 60 Hz 1750 RPM, 1 or 3 phases, suitable for continuous duty at 130 °F; single phase motors are capacitor start, include automatic reset thermal over-load protection and are available in 115, 208, 230 and 277 volts. Three phase motors are available in 208, 230, 460 or 575 volts. Motors shall be resilient base mounted up to 2 hp. From 3 hp and up shall be rigid base mounted.

#### Electric Heat:

I. Electric heat shall be designed to mount at the discharge air openings of the unit. Electric heat are factory supplied for field installation and shall include a de-energizing magnetic control contactor per stage with a capacity of 48 Amps per circuit and include a secondary over-temperature switch. Heaters shall include fan-interlocking, power and control terminal boards with grounding lugs. An automatic limit switch shall provide aver-temperature protection and a manual reset limit switch shall provide secondary over-temperature protection.

#### Filters:

J. Standard filter rack shall include 2" TA filters but are suitable for 4" TA filters. With options for 2" and 4" pleated filters. Filter racks have to be accessible from both sides and options for access from top or bottom.





# BELT DRIVE UNITS CAP DESCRIPTION MODEL NUMBER NOMENCLATURE - PAGE #1

		Н	w	Е	D	А	0	9 0	В	3 2 2	5	1 . 2	. 5	2	4	2	А	R	Н 6
			**		U	-	Ů	3 0		3 2 2	,	1 1 . 1 2	.   3		COIL	_		I.	МОТО
			MOD	FI		СМ		SIZE	BS	CFM		ESP			OWS		RF	CN	R
			IVIOD			CIVI		5121	1 55	Citvi		LSI		- 11			111	CIV	11
	NFIGURATION											-HEAT							
Н	HORIZONTA	ıL.									0	NO PH							
V M	VERTICAL										1 2	1- ROW							
R	MODULAR ROOFTOP									-		2-ROW			1				
	KOOFTOP		i																
											coc	DLING							
	OPTIONS										0	NO COOLING	à						
W	CHILLED WA										2	2-ROWS							
Х	DIRECT EXPA										4	4-ROWS							
0	NO COOLING	G		j							6	6-ROWS							
										-	8	8-ROWS							
HEATING	OPTIONS																		]
Н	HOT WATER	R									RE-H	HEAT							
S	STEAM										0	NO RH							
E	ELECTRIC										1	1- ROW							
0	NO HEAT									_	2	2-ROW							
UNIT INS				_								RIGERANT							
S	SINGLE WAL		FIBERGLA	5							Α	R-410A							
D	DOUBLE WA										В	R-22							
U	SINGLE WAL	. 7/8" CL	OSED CEL	L							С	R-NU22							
Х	SPECIAL										D 0	R-134A NONE							
										-	U	NONE						J	
CABINET	MATERIAL																		
Α	GALVANIZE											NG CONNECTIO							
В	PRE-PAINTE										R	RIGHT							
С	POWDER PA	AINTED					l				L	LEFT HA							
UNIT SIZI												CONNECTIONS . KING THE UNIT		AIR FI	)W DIRE	CTION	N		]
024	24000									-	100	O IIIL OIVII	1116 /		DIILL	21101	•		1
036	36000																		
048	48000										MO	TOR SIZE AND \	VOLTAGE	ОРТІС	ONS				
060	60000											DIGIT							
090	90000										Α	0.25 HP							
120	120000										В	0.33 HP		DIGIT					
180	180000										C	0.50 HP	1		1 ODP/F				
240	240000										D E	0.75 HP 1.00 HP	2		'1 ODP/H '1 ODP/H				
BLOWFR	SIZE OPTIONS										F	1.50 HP	4		1 ODP/F '1 ODP	ı C			
1	9 X 4										G	2.00 HP	5		3/60/00	)P/HE	Ē		
2	9 X 6										Н	3.00 HP	6		3/60/00				
3	9 X 9										1	5.00 HP	7		3/60/00				
4	10 X 10										J	7.50 HP	8	575 ,	/3/60/ O	DP/H	łE		
5	12 X 12									_	K	10.0 HP							
6	15 X 11																		
7	15 X 15																		



## **BELT DRIVE UNITS**

## **CAP DESCRIPTION MODEL NUMBER NOMENCLATURE - PAGE #2**

		В	всо	Е	1 0 0 . 0	C 0	0	С	F 0	1	1	1
		В	UNIT		1   0   0   .   0	HTR	-		VFD	1	1	1
			_	.,	E11104/			٠,,		DE) /	DE\/	
		OAO	ACCS	٧	EH KW	ACC:	5	٧	ACCS	REV.	REV.	]
011	TSIDE AIR OPTIONS								EAC	TORY USE		Т
0	NONE								FAC	TORT USE		_
A	MIXING BOX W/ PLEATED FILTER 2"											
В	MB W/ 3 POSITION CONTROL PACKAGE	3F							VFD ACCESO	RIFSS		
C	MB W/MODULATING CONTROL PACK									ACCESSORIES		
E	FACE & BYPASS DAMPER W/FILTER SE								A REI	и MTG KIT		
F	100% OUTSIDE AIR HOOD W/DAMPEI								B LCF	11 CONT PANEL		
G	30% OUTSIDE AIR HOOD W/DAMPER								C LCF	12 CONT PANEL		
Χ	SPECIAL								D NE/	UL TY1 K FOR M1 FR		
									E NE/	UL TY1 K FOR M2 FR		
									F NE/	UL TY1 K FOR M3 FR		
UN	T ACCESSORIES									COUPLING PLT KIT	FOR M1&M2 FRA	ME
0	NONE								H DEC	COUPLING PLT KIT	FOR M3 FRAME	
Α	PLEATED FILTER 2"									1 FOR M1 FRAME		
В	DISCHARGE GRILL PLENUM									1 FOR M2 FRAME		
С	RETURN GRILL AIR PLENUM									1 FOR M3 FRAME		
E	MOTOR START STOP STATION								L DIN	RAIL MTG KIT		_
F	ROOF CURB 12"											
G X	ROOF CURB 14" SPECIAL								VFD SIZE			
^	JF ECIAL			l						VFD		
HF/	ATER VOLTAGE									5 HP 230/1		
0	NO HEATERS									0 HP 230/1		
A	115/1									0 HP 230/1		
В	208/1									0 HP 230/1		
С	230/1									0 HP 230/1		
Ε	277/1								F 0.3	3 HP 230/3		
F	208/3								G 0.5	0 HP230/3		
G	230/3								H 1.0	D HP 230/3		
Н	460/3									0 HP 230/3		
J	575/3									0 HP 230/3		
										0 HP 230/3		
HEA	ATER CAPACITY									0 HP 460/3		
	1.0 to 100.0 KW IN .1 Kw increments									0 HP 460/3		
0	NO HEATERS					J				0 HP 460/3		
										0 HP 460/3		
	ATER ACCESSORIES									0 HP 460/3		
0	NO ACCESSORIES							l		0 HP 460/3		
A	Single point line Conn.								S 10.	0 HP 460/3		-
B C	SCR Controls											
	Start Stop Control St											
D	None											

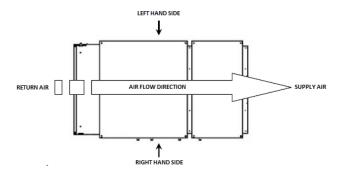
For more information contact Customer Service

Phone: 817-624-0820 Fax: 817-624-8581





						CO	IL DAT	ΓA									
мо	FIN BLOCK	FAC E			WATER CONN.	DX CC	ONN	MODEL	FIN B	BLOCK	FACE	ROWS		WATE	ER CONN.	DX C	CONN
DEL	нхw	ARE A	ROWS	FPI	HEADE R OD	SUCT			LIQ.	нхw		<u> </u>	FPI	AREA	HEADER OD	SUCT	LIQ.
			1		5/8	N/A	N/A					2			7/8	N/A	N/A
			2		5/8	N/A	N/A	90-R		22.5 X 47	7.34	4		1	-1/8	1-3/8	5/8
24-R	10 X 31	2.15	4			7/8	3/8	90-K		22.3 <b>A</b> 47	7.34	6		1	-3/8	1-5/8	5/8
			6		7/8	7/8	3/8					8		1	-3/8	1-5/8	5/8
			8			7/8	3/8					2			7/8	N/A	N/A
			1		5/8	N/A	N/A	120-R	31	X 47	10.11	4		1	-1/8	1-5/8	5/8
			2		3/6	N/A	N/A	120-K	31	A 47	10.11	6		1	-3/8	1-5/8	5/8
36-R	13 X 31	2.8	4			7/8	3/8					8	10	1	-5/8	1-5/8	5/8
			6		7/8	7/8	3/8					2		1	-1/8	N/A	N/A
			8	10		1-1/8	3/8	180-R	31.5	X 60	13.13	4		1	-3/8	1-5/8	5/8
			1		5/8	N/A	N/A	100 10	31.0	11 00	15.15	6		1	-5/8	2-1/8	5/8
			2		570	N/A	N/A					8		2	2-1/8	2-1/8	5/8
48-R	15 X 40	4.17	4		7/8	7/8	1/2					2		1	-3/8	N/A	N/A
			6			1-1/8	1/2	240-R	42	X 60	17.5	4		1	-5/8	2-1/8	5/8
			8		1-1/8	1-3/8	1/2	- 1 - 1				6		2	2-1/8	2-1/8	5/8
			1		5/8	N/A	N/A					8		2	2-1/8	2-1/8	5/8
			2			N/A	N/A			COl	NTACT THI	E FACTORY FO	OR ADDI	TONAL C	OIL INFORM	IATION	
60-R	17.5 X 40	4.86	4		7/8	7/8	1/2										
			6		1-1/8	1-1/8	1/2										
			8			1-3/8	1/2										





							FILTI	ER QUA	NTITY					
			MODEL					36	48	60	90	120	180	240
		14"	14" X 20" X 2/4"											
STANDARD FILTER RACK		14"	Χ	25"	Х	2/4"					4	4		
	FILTER													
	SIZE	16"	Х	16"	Х	2/4"	2	2						
SINGLE & DOUBLE WALL		16"	X	20"	Χ	2/4"							4	4
		16"	Х	25"	Х	2/4"							4	4
(HFDA) ACCEPS 2" OR														
4" TA		20"	20" X 20" X 2/4						2	2				
OR PLATED FILTERS			FILTER TOTAL				2	2	2	2	4	4	8	8

24/36 **2-16"X16"X2/4"**16"
16"
16"

48/60 **2-20"X20"X2/4"** 20" 20" 20"

90/120 **4-14"X25"X2/4"** 14" 14"

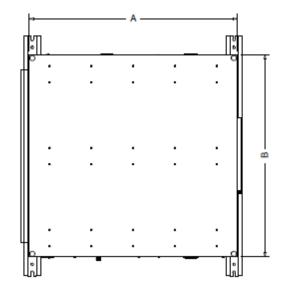
25" <sub>25"</sub>

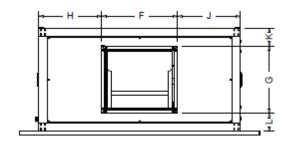
**4-16"X20"X2/4" 20" 20" 4-16"X25"X2/4" 25" 16" 16" 16" 16" 16"** 

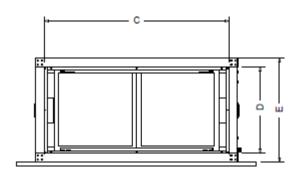
**CHART ABOVE SHOWS SPECIFIC FILTER ARRANGEMENTS** 

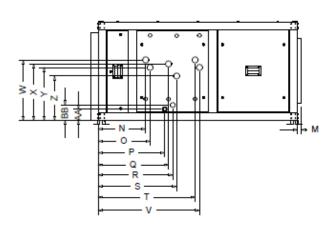
2" and 4" FILTER RACKS ARE SIDE LOADING









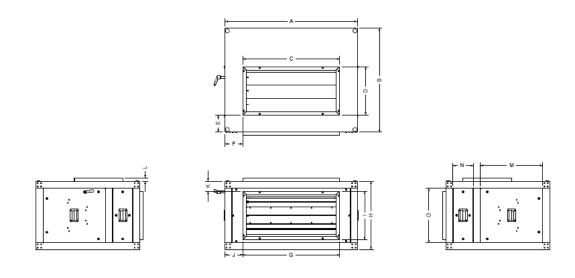






	·	HORIZON	TAL BELT	DRIVE SI	NGLE & [	OOUBLE W	ALL DIM	MENSION	IS FROM	024 TO 1	20		
UNIT	Α	В	С	D	E	F	G	Н	J	K	L	М	N
H***A-024	49.5	39.0	35.0	16.0	20.0	14.0	12.5	12.5	12.5	2.0	2.0	1.0	11.2
H***A-036	49.5	39.0	35.0	16.0	20.0	14.0	12.5	12.5	12.5	2.0	2.0	1.0	11.2
H***A-048	49.5	48.0	44.0	20.5	24.5	18.0	16.0	15.0	15.0	4.3	4.3	1.0	11.8
H***A-060	49.5	48.0	44.0	20.5	24.5	18.0	16.0	15.0	15.0	4.3	4.3	1.0	11.8
H***A-090	63.0	57.0	53.0	32.4	36.6	20.0	17.5	18.5	18.5	9.5	9.5	1.0	12.6
H***A-120	63.0	57.0	53.0	32.4	36.6	20.0	17.5	18.5	18.5	9.5	9.5	1.0	12.6
UNIT	0	Р	R	S	Т	U	V	w	х	Υ	Z	AA	ВВ
H***A-024	13.6	16.5	17.2	N/A	19.8	23.5	25.9	11.4	11.4	9.2	9.2	2.8	2.8
H***A-036	13.6	16.5	17.2	N/A	19.8	23.5	25.9	11.4	11.4	9.2	9.2	2.8	2.8
H***A-048	12.9	16.5	17.5	18.5	19.5	.24.1	25.2	15.1	14.1	13.2	11.1	1.1	2.8
H***A-060	12.9	16.5	17.5	18.5	19.5	24.1	25.2	15.1	14.1	13.2	11.1	1.1	2.8
H***A-090	13.9	17.7	18.8	20.7	22.7	27.6	26.8	20.0	19.7	18.5	17.6	3.3	4.3
H***A-120	13.9	17.7	18.8	20.7	22.7	27.6	26.8	20.0	19.7	18.5	17.6	3.3	4.3

All Technical Specifications Subject to Change Without Notice For More Information Contact Customer Service Phone (817) 624-0820 Fax (817) 624-8581 www.commercialaire.com



U	NIT		Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0
HMB3	-	024	39.0	30.5	28.5	14.25	5.0	5.25	28.5	20.0	14.25	5.25	2.9	1.0	18.4	6.0	16.0
HMB3	-	036	39.0	30.5	28.5	14.25	5.0	5.25	28.5	20.0	14.25	5.25	2.9	1.0	18.4	6.0	16.0
HMB3	-	048	48.0	30.0	36.5	17.25	4.2	5.75	36.5	24.5	17.25	5.75	3.7	1.0	16.75	7.7	20.5
НМВ3	-	060	48.0	30.0	36.5	17.25	4.2	5.75	36.5	24.5	17.25	5.75	3.7	1.0	16.75	7.7	20.5
нмв3	-	090	63.0	41.5	36.5	22.25	4.5	10.25	57.0	36.7	22.25	10.25	7.2	1.0	23.6	11.8	32.7
нмв3	-	120	63.0	41.5	36.5	22.25	4.5	10.25	57.0	36.7	22.25	10.25	7.2	1.0	23.6	11.8	32.7
HMB3	-	180	72.0	41.5	51.5	24.5	4.5	10.25	51.5	47.0	32.6	10.25	7.2	1.0	23.6	11.8	42.0
НМВ3	-	240	72.0	41.5	51.5	24.5	4.5	10.25	51.5	47.0	32.6	10.25	7.2	1.0	32.6	11.8	42.0

**HORIZONTAL BELT DRIVE 2015**