



# VERTICAL FAN COILS

200 - 1,200 CFM

ADVANCED  
HYDRONICS



# CONTENTS

MORE THAN JUST FAN COILS	3
FAN COIL & AIR HANDLERS MODEL IDENTIFICATION SYSTEM	4
VERTICAL FAN COILS	5
STANDARD FEATURES	8
LV SERIES	9
AHRI CERTIFIED COOLING CAPACITY	10
HEATING PERFORMANCE	11
COIL DATA	12
ELECTRIC HEAT	13
AIR FLOW DATA	14
MOTOR DATA	15
SOUND DATA	16
WEIGHTS & MEASURES	17
CERTIFIED DIMENSIONAL DRAWING	19
GENERAL INFORMATION	27



## ETL LISTED

Williams Vertical Fan Coils are listed by Intertek (ETL). The ETL listing ensures that Williams Vertical Fan Coils have been examined by ETL and comply with the organization's applicable standards. ETL's re-examination service includes periodic visits by ETL inspectors to Williams' factory to ensure continued compliance for all listed products. Materials and equipment acceptance for use by the New York Department of Buildings: AH 008-120 / MEA 414-05-E



## AHRI CERTIFIED

Williams Vertical Fan Coils are labeled and approved by the Air Conditioning, Heating & Refrigeration Institute (AHRI). This designation signifies that Williams Vertical Fan Coil units have been rated as follows in accordance with the latest edition of ANSI/AHRI 440 with Addendum 1 Performance Rating of Room Fan Coils and subject to rating accuracy by AHRI sponsored, independent, third-party testing.



## ALS-TRUESDAIL CERTIFICATION MARK FOR DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS

Certified Product and/or packaging, and/or documentation certified to both NSF/ANSI 61 and NSF/ANSI 372 by Truesdail shall bear this Certification mark to identify the compliance.



# MORE THAN JUST FAN COILS

For over 100 years, Williams has been a market leader in providing high quality HVAC products for residential and commercial buildings. Today, Williams continues the proud tradition by offering to the commercial/industrial market more configurations and size options of quality fan coils and blower coils/air handlers than any other HVAC company in North America.

Williams is based in Colton California, serving all US and overseas markets with complete application engineering, sales, marketing and administrative services.

Our pledge is to provide complete, high quality and timely support for the successful completion of your construction projects involving engineered products offered by Williams. We believe in a partnering attitude that creates superior projects and high levels of satisfaction.



COLTON, CALIFORNIA

FAN COIL ASSEMBLY

AIR HANDLER ASSEMBLY

# WILLIAMS FAN COIL AND AIR HANDLERS MODEL IDENTIFICATION SYSTEM

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<b>CFM</b>			<b>ROWS</b>		<b>MOTOR VOLTAGE</b>		<b>ELECTRIC HEAT</b>																																														
200 TO 12,000 (002-120) CFM AVAILABLE  EXAMPLE: 800 CFM = 008 1,000 CFM = 010 12,000 CFM = 120			COOLING    HEATING		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>1</th> <th>115-1-60</th> </tr> <tr> <th>2</th> <th>280-1-60</th> </tr> <tr> <th>3</th> <th>208-3-60</th> </tr> <tr> <th>4</th> <th>230-1-60</th> </tr> <tr> <th>5</th> <th>230-3-60</th> </tr> <tr> <th>6</th> <th>277-1-60</th> </tr> <tr> <th>7</th> <th>460-3-60</th> </tr> <tr> <th>8</th> <th>570/600-3-60</th> </tr> <tr> <th>9</th> <th>208/230-1-50</th> </tr> <tr> <th>A</th> <th>190/380-1-50</th> </tr> <tr> <th>B</th> <th>115-1-60 HC</th> </tr> <tr> <th>C</th> <th>347-1-60</th> </tr> </table>		1	115-1-60	2	280-1-60	3	208-3-60	4	230-1-60	5	230-3-60	6	277-1-60	7	460-3-60	8	570/600-3-60	9	208/230-1-50	A	190/380-1-50	B	115-1-60 HC	C	347-1-60	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>KILOWATTS</th> <th>VOLTAGE</th> </tr> <tr> <td>00 NONE</td> <td>0 NONE</td> </tr> <tr> <td>1A 1.5</td> <td>1 115-1-60</td> </tr> <tr> <td>2A 2.5</td> <td>2 208-1-60</td> </tr> <tr> <td>05 5</td> <td>3 230-1-60</td> </tr> <tr> <td>25 25</td> <td>4 277-1-60</td> </tr> <tr> <td></td> <td>5 208-3-60</td> </tr> <tr> <td></td> <td>6 230-3-60</td> </tr> <tr> <td></td> <td>7 460-3-60</td> </tr> <tr> <td></td> <td>8 575-3-60</td> </tr> </table>			KILOWATTS	VOLTAGE	00 NONE	0 NONE	1A 1.5	1 115-1-60	2A 2.5	2 208-1-60	05 5	3 230-1-60	25 25	4 277-1-60		5 208-3-60		6 230-3-60		7 460-3-60		8 575-3-60
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<b>SYSTEM</b>																																																					
DX	DIRECT EXPANSION																																																				
DH	DIRECT EXPANSION / HYDRONIC HEAT																																																				
DS	DIRECT EXPANSION / STEAM HEAT																																																				
S2	STEAM HEATING																																																				
WS	HYDRONIC COOL / STEAM HEAT																																																				
W2	TWO PIPE HYDRONIC																																																				
W4	FOUR PIPE HYDRONIC																																																				
Z2	TWO PIPE WITH WILD COIL																																																				
Z4	FOUR PIPE WITH WILD COIL																																																				
<b>MODEL</b>			<b>CABINETS</b>				<b>HAND CONNECTION</b>																																														
AH	HORIZONTAL AIR HANDLER		B	BASIC			D	REAR																																													
AV	VERTICAL AIR HANDLER		D	DELUXE			E	OPPOSITE END																																													
ER	EASY RISER VERTICAL STACK		E	FLUSH BOTTOM RETURN AND SUPPLY			L	LEFT																																													
LH	HORIZONTAL		F	FRONT RETURN / TOP SUPPLY (CV)			R	RIGHT																																													
LV	VERTICAL		F	FLUSH			T	TOP																																													
LS	LOW SILHOUETTE VERTICAL		F	FRONT DISCHARGE (LS / LV)																																																	
<b>HIGH PERFORMANCE MODEL</b>			G	REAR RETURN / BOTTOM SUPPLY (CV / AV)																																																	
HH	HORIZONTAL		H	HEAT ONLY (CV)																																																	
CV	CASED VERTICAL		J	DELUXE FRONT RETURN / TOP SUPPLY (CV)																																																	
			K	BASIC FRONT RETURN / TOP SUPPLY (CV)																																																	
			L	TOP RETURN / BOTTOM SUPPLY (CV)																																																	
			M	MAIN (ER)																																																	
			M	MODULAR (LV)																																																	
			O	HEAT ONLY DELUXE (CV)																																																	
			Q	BOTTOM RETURN AIR PLENUM (LH / HL / HH)																																																	
			Q	REAR RETURN / BOTTOM SUPPLY DELUXE (CV)																																																	
			R	FRONT RETURN / TOP SUPPLY DELUXE (CV)																																																	
			R	RECESSED (LS / LV)																																																	
			R	REAR RETURN AIR PLENUM (LH / HL / HH)																																																	
			S	SECONDARY (ER), SLOPE TOP (LV)																																																	
			S	FRONT SUPPLY / FRONT RETURN (CV)																																																	



# VERTICAL FAN COILS - LV SERIES

200 - 1,200 CFM

## VERTICAL BASIC / LV-B

The slim, compact design of our Vertical Basic fan coil (LV-B) is intended for furred in applications with a field fabricated, custom enclosure. Housed in a heavy gauge galvanized steel cabinet and insulated with ½" thick neoprene coated fiberglass, this reliable fan coil is ideal for almost any through the wall installation.



## VERTICAL DELUXE / LV-D

Our basic unit in a soft white, powder coated epoxy finished cabinet. The Vertical Deluxe fan coil (LV-D) is designed for exposed wall mounting. Most commonly installed under windows, the one piece, wrap around front panel is easily removed for servicing. Filters are concealed and can be removed without the need for tools.



## VERTICAL SLOPE TOP / LV-S

The Vertical Slope Top (LV-S) is our Vertical Deluxe model, only the cabinet is designed with a full sloping top. The vertical slope top also features solid side panels so that units may be set side by side for long corridor applications. This unit is ideal for any application in which books or materials are likely to be placed over discharge grilles.



# VERTICAL FAN COILS - LV SERIES

200 - 1,200 CFM

## **.VERTICAL MODULAR / LV-M**

Our Vertical Modular (LV-M) is our standard vertical slope top model with a flat top cabinet. A removable, single piece front panel provides complete access to the unit for servicing the motor, coil, valve package, drain pan, filter and all other components. The cabinet includes top discharge and front-return grilles.



## **VERTICAL FRONT DISCHARGE / LV-F**

In a modified version of our Vertical Modular, the cabinet of the Vertical Front Discharge (LV-F) is designed with front discharge and return air grilles. Removable front panel below the front discharge air grille provides total access to the unit for servicing. The vertical front discharge is an attractive, exposed unit that is ideal for perimeter heating and cooling in a wide variety of building environments.



## **VERTICAL RECESSED / LV-R AND LS-R**

Our Vertical Recessed is designed for recessed wall installation where space is limited. The design is well suited for hallways, bathrooms and other smaller areas. The Vertical Recessed has a soft white, epoxy powder coat access panel that's easily removed for service.



## **LOW SILHOUETTE VERTICAL BASIC / LS-B**

Designed for furred in, under the window applications, the low silhouette vertical basic (LS-B) stands only 15 1/2" high and accommodates a field furnished and installed decorative enclosure that conceals the unit. The basic unit consists of a chassis, fan deck, drain pan, throwaway filter and a top-discharge duct collar.



### **LOW SILHOUETTE VERTICAL DELUXE TOP DISCHARGE / LS-D**

The Low Silhouette Vertical Deluxe (LS-D) is similar to the Basic, only specifically designed for exposed under window applications. The attractive, streamlined cabinetry blends with any room decor and is a favorite of architects and contractors. The cabinet comes with our soft white, powder coated epoxy. Also available as Front Discharge and Recessed



### **LOW SILHOUETTE FRONT DISCHARGE VERTICAL CABINET / LS-F**

The Vertical Low-Silhouette Front Discharge is a low-static (up to .25 ESP) fan coil with a draw through design. The LS-F fan coil comes with a coil, blower/motor assembly and a galvanized steel, powder coated epoxy drain pan covered with  $\frac{3}{8}$ " thick insulation. The cabinet is insulated with  $\frac{1}{2}$ " thick neoprene coated fiberglass. The LS-F cabinet and top control access panel are finished in a soft white powder coated epoxy with black bar type front discharge and return air grilles. Freestanding at 14½ inches in height.

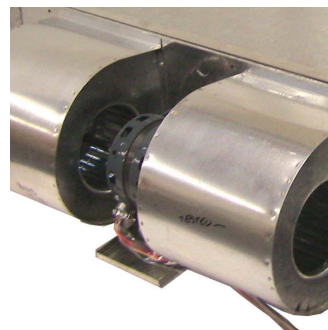
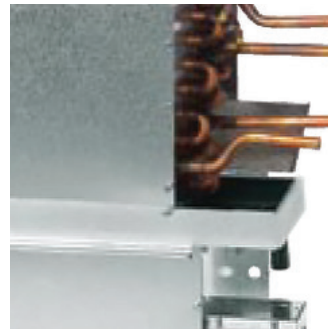
*(This is a custom designed fan coil, certified dimensional drawings provided upon request.)*





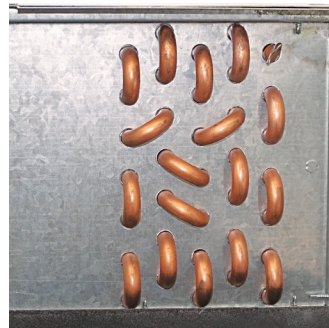
# STANDARD FEATURES

- Heavy gauge galvanized steel cabinet with neoprene coated 1/2" thick fiberglass insulation with 1.5 PCF density.
- Coils are made of 1/2" OD copper tube with aluminum fins (12 FPI) equipped with manual air vent. Direct Expansion (DX) and steam coils do not include manual air vent. Coils are 100% underwater pressure tested at 350 PSI with a 300 PSI working pressure.
- Galvanized drain pan is powder coated epoxy with a 1/8" thick elastomeric insulation and has primary and secondary drain connections.
- Three speed, 115/1/60, 208/1/50-60 or 277/1/60 PSC motor with quick connect plug.
- Controls and motors are factory wired and terminated in a junction box for single point power supply.
- Stamped, louvered discharge grille on Vertical Slope Top, Wrap Slope Top and Recessed.
- Black, bar type discharge grille on Vertical Front Discharge, Modular and Low Silhouette Deluxe Front Discharge.
- Multiple, four way quadrafuser discharge grilles on Vertical Deluxe and Low Silhouette Deluxe.
- One inch fiberglass, throwaway filter.
- Designed to be floor or wall mounted with six mounting holes provided for wall mounting.
- Individually tagged, crated and shipped as scheduled for installation.
- AHRI certified and ETL approved.



# OPTIONS

- Soft white, powder coated epoxy cabinet.
- Drain Pans - stainless steel and double wall.
- Insulation - foil face and elastomeric in 1/2" and 1" thicknesses.
- Coils - copper fins/tubes, phenolic coated. All options are available on one to five row for LV units and one to three rows for LS units.
- Systems - two or four pipe, hydronic cooling/heating, steam, DX and/or electric heat.
- Cabinet - Deluxe, Front Discharge, Recessed, Slope Top and Modular.
- Grilles - available in custom colors.
- ECM™ motors; programmed 3 speed, or variable volume, 120-240/1 /60 or 277 /1 /60.
- Controls - unlimited selection of factory mounted valves and controls.
- Filters - washable 1".
- Flow-control circulator for water heating applications.
- Electric Strip Heat from 0.5 to 5 kW.



# AHRI CERTIFIED COOLING CAPACITY



Williams Vertical Fan Coils are labeled and approved by the Air Conditioning, Heating & Refrigeration Institute (AHRI). This designation signifies that Williams Vertical Fan Coil units have been rated as follows in accordance with the latest edition of ANSI/AHRI 440 with Addendum 1 Performance Rating of Room Fan Coils and subject to rating accuracy by AHRI sponsored, independent, third-party testing.

AHRI APPROVED STANDARD RATINGS						COOLING CAPACITY	
MODEL SIZE	MODEL TYPE	CABINET STYLE	RATED CFM	GPM	WPD (FT/H2O)	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)
002	LV SERIES (STANDARD)	B	331	2.4	2.9	11,982	8,864
		D, M	298	2.2	2.5	10,875	7,996
		R	266	1.9	2.2	9,772	7,114
		F	298	2.2	2.5	10,875	7,996
		S, W	185	1.2	1.0	6,157	4,437
003	LV SERIES (STANDARD)	B	354	2.5	3.2	12,715	9,450
		D, M	320	2.3	2.8	11,621	8,579
		R	287	2.1	2.4	10,483	7,696
		F	320	2.3	2.8	11,621	8,579
		S, W	237	1.7	1.9	8,606	6,273
004	LV SERIES (STANDARD)	B	366	3.0	6.0	15,093	10,393
		D, M	432	3.5	7.4	17,697	12,333
		R	383	3.2	6.4	15,782	10,906
		F	432	3.5	7.4	17,697	12,333
		S, W	366	3.0	6.0	15,093	10,393
006	LV SERIES (STANDARD)	B	627	4.6	4.2	22,843	16,877
		D, M	577	4.3	3.8	21,279	15,620
		R	527	3.9	3.4	19,617	14,318
		F	577	4.3	3.8	21,279	15,620
		S, W	441	3.3	2.7	16,525	11,960
008	LV SERIES (STANDARD)	B	810	6.2	8.1	31,086	22,432
		D, M	758	5.9	7.5	29,429	21,115
		R	707	5.5	7.0	27,746	19,796
		F	758	5.9	7.5	29,429	21,115
		S, W	747	5.8	7.4	29,074	20,074
010	LV SERIES (STANDARD)	B	984	8.9	10.8	44,330	30,045
		D, M	925	8.4	10.0	42,038	28,393
		R	871	8.0	9.3	39,903	26,864
		F	925	8.4	10.0	42,038	28,393
		S, W	860	7.0	9.3	39,461	26,550
012	LV SERIES (STANDARD)	B	1,146	10.2	8.7	50,851	34,667
		D, M	1,092	9.8	8.2	48,821	33,183
		R	1,038	9.3	7.7	46,733	31,675
		F	1,092	9.8	8.2	48,821	33,183
		S, W	1,022	8.9	6.4	44,288	30,475

**Notes:** 1) Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor voltage 115/1/60 power source. Air flow under dry coil conditions. Water pressure drops shown in feet of water. All units are listed under UL Category Control No. LZFE.

2) Ratings are based on actual CFM. Standard coils for LV002-004/LS004-006 is 3 rows and LV006-012 is 4 rows.

3) Legend - B = Basic; R = Recessed; D = Deluxe; F = Front Discharge; M = Modular; S = Slope Top and W = Wrap Slope Top.



# HEATING PERFORMANCE

AHRI APPROVED STANDARD RATINGS						HEATING CAPACITY
MODEL SIZE	MODEL TYPE	CABINET STYLE	RATED CFM	GPM	WPD (FT/H2O)	TOTAL HEATING (BTUH)
002	LV SERIES (STANDARD)	B	337	2.3	1.8	34,241
		D, M	298	2.5	1.5	30,139
		R	266	1.8	1.2	26,583
		F	298	2.0	1.5	30,139
		S, W	185	1.2	0.6	17,486
003	LV SERIES (STANDARD)	B	354	2.4	1.9	35,959
		D, M	320	2.2	1.6	32,481
		R	287	1.9	1.4	28,938
		F	320	2.2	1.6	32,481
		S, W	237	1.5	1.0	23,180
004	LV SERIES (STANDARD)	B	480	3.3	4.4	49,592
		D, M	432	2.9	3.8	44,180
		R	383	2.6	3.1	36,362
		F	432	2.9	3.8	44,180
		S, W	366	2.4	2.9	36,259
006	LV SERIES (STANDARD)	B	627	4.3	6.5	65,000
		D, M	577	4.0	5.9	59,938
		R	527	3.6	5.2	54,677
		F	577	4.0	5.9	59,938
		S, W	441	3.0	4.0	45,087
008	LV SERIES (STANDARD)	B	810	5.6	4.5	83,479
		D, M	758	5.2	4.1	78,279
		R	707	4.9	3.8	73,018
		F	758	5.2	4.1	78,279
		S, W	747	5.1	4.1	77,158
010	LV SERIES (STANDARD)	B	984	6.8	7.2	102,262
		D, M	930	6.4	6.7	96,781
		R	876	6.1	6.2	91,156
		F	930	6.4	6.7	96,781
		S, W	867	6.0	6.1	90,204
012	LV SERIES (STANDARD)	B	1,151	7.9	5.1	118,845
		D, M	1,097	7.6	4.8	113,470
		R	1,043	7.2	4.5	107,971
		F	1,097	7.6	4.8	113,470
		S, W	1,022	7.0	4.3	105,798

**Notes:** Based on 70°F DB EAT, 180°F EWT, 40°F temperature rise, high fan speed. Motor voltage 115/1/60 power source. Air flow under dry coil conditions. Water pressure drops shown in feet of water.

## COIL DATA

Coils are made from ½" OD copper tubing with .017" wall thickness, and tubes are staggered for maximum heat transfer. A manual air vent is standard on all hydronic coils. DX and steam coils do not include manual air vent. All coils are 100% underwater pressure tested to 350 PSIG with a 300 PSIG working pressure. Steam coils are rated for up to 15 PSIG or 250°F.

Coils are available in two or four pipe, and from one to five row configurations for LV Series units with any combination of chilled or hot water, steam or DX. Custom circuiting is available.

# COIL DATA

COIL ROW	LS SERIES		LV SERIES					
	004	006	002	003	004	006	010	012
Single-Row Coil								
Two-Row Coil				STANDARD				
Three-Row Coil								
Four-Row Coil	NOT AVAILABLE							
*Five-Row Coil					OPTIONAL			

\* Four row coil maximum when selecting a DX coil with a hot water coil.

## COIL OPTIONS:

- DX – Includes distributor and nozzle, TXV must be field furnished and installed
- Steam – 1-15 PSIG
- Opposite End Connection
- Preheat Coil Position – Standard coil is reheat position
- Phenolic Anti-Corrosion Coating
- Copper Fin
- Stainless Steel End Plates
- 6-16 Fins Per Inch (Standard is 12 FPI) - consult with factory for proper sizing and application information.

Coil connections on the chilled water side for LV002-006/LS004-006 is ½" and ¾" on LV008-012. The hot water connection is ½" on the LV002-012/LS004-006.



# ELECTRIC HEAT

Electric heat may be furnished with either hydronic, direct expansion or steam coils and is factory mounted, wired, and tested. Option equipped with low watt density (for long life) nichrome wire elements. The heater has a built-in, high limit, and fusible link to provide maximum safety.

MODEL SIZE	kw	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
	VOLTAGE	AMPS									
LS/LV002	115	4.4	8.7	13.0	17.4						
	208	2.4	4.8	7.2	9.6	12.0					
	230	2.2	4.4	6.5	8.7	10.9					
	277	1.8	3.6	5.4	7.2	9.0					
LS/LV003	115	10.4	8.7	13.0	17.4		26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1
LS/LV004	115	4.4	8.7	13.0	17.4	21.7	26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1
LS/LV006	115	4.4	8.7	13.0	17.4	21.7	26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1
LS/LV008	115	4.4	8.7	13.0	17.4	21.7	26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1
LS/LV010	115	4.4	8.7	13.0	17.4	21.7	26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1
LS/LV012	115	4.4	8.7	13.0	17.4	21.7	26.1				
	208	2.4	4.8	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
	230	2.2	4.4	6.5	8.7	10.9	13.0	15.2	17.4	19.6	21.7
	277	1.8	3.6	5.4	7.2	9.0	10.8	12.6	12.6	16.3	18.1



# AIR FLOW DATA

Air flow shown below is under dry coil conditions.

AIR FLOW DATA		EXTERNAL STATIC PRESSURE																	
SIZE	COIL ROWS	0.00			0.05			0.10			0.15			0.20			0.25		
		HI	MED	LOW	HI	MED	LOW	HI	MED	LOW	HI	MED	LOW	HI	MED	LOW	HI	MED	LOW
LV002	2 ROW	215	200	165	180	168	140	152	132	117	138	113	101	129	104	95	117	95	79
	3 ROW	210	195	160	175	163	135	147	128	112	133	108	96	124	99	91	112	89	74
LV003	2 ROW	325	295	250	255	223	190	195	152	135	152	128	115	130	113	105	116	100	99
	3 ROW	320	290	245	250	218	183	190	148	130	147	123	110	125	107	100	111	95	84
LV004	3 ROW	340	325	295	280	255	225	215	195	160	160	140	125	138	126	115	129	120	111
	4 ROW	335	320	290	275	250	220	210	190	155	155	135	120	133	121	110	125	115	106
LV006	3 ROW	510	420	315	460	375	275	425	335	235	375	303	301	346	280	193	328	260	187
	4 ROW	500	410	305	450	365	265	415	325	225	365	293	191	336	270	184	317	250	178
LV008	3 ROW	635	620	315	580	560	275	530	505	235	470	450	200	424	403	193	390	360	187
	4 ROW	625	610	305	570	550	265	520	495	225	460	440	190	414	393	183	379	350	177
LV010	3 ROW	790	725	455	745	695	405	710	665	370	681	638	340	651	618	312	634	600	312
	4 ROW	780	715	445	735	685	395	700	655	360	671	628	330	641	608	302	624	590	302
LV012	3 ROW	980	840	675	940	795	635	900	740	610	865	713	586	836	698	572	617	685	566
	4 ROW	965	825	660	925	781	620	885	725	595	850	698	571	821	683	557	802	670	551

**Notes:** Ratings and capacity tables based on nominal CFM.

# MOTOR DATA

Motors are wired to a junction box ready for single point field connection.

## OUTSTANDING MOTOR FEATURES:

- Quick connect plug
- Permanent split capacitor
- Thermal overload protection
- 1050 RPM for lower operating costs
- Oversized bearings are permanently lubricated and sealed
- 122°F maximum operating temperature
- Custom motor mounts designed to reduce noise and eliminate vibration
- Stators are epoxy dipped for more efficient motor cooling

## OPTIONAL MOTORS:

- 208V-1Ø-60 motors
- 277V-1Ø-60 motors
- 230/220V-1Ø-60 motors
- 50-Hz motors in specified voltages

60 Hertz SINGLE-PHASE MOTORS (1100 RPM)			VOLTAGE / WATTS							
			115V		208V		230V		277V	
MODEL	HP (QTY)	BLOWERS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
LV002	1/20 (1)	1	0.78	98	0.66	98	0.45	98	0.40	98
LV003	1/20 (1)	1	1.00	104	0.66	104	0.55	104	0.50	104
LV004	1/15 (1)	2	1.00	134	0.55	134	0.55	134	0.50	134
LV006	1/15 (1)	2	1.20	141	0.55	141	0.65	141	0.60	141
LV008	1/4 (1)	2	2.30	215	1.45	215	1.20	215	1.00	215
LV010	1/4 (1)	2	2.50	231	1.76	231	1.30	231	1.10	231
LV012	1/4 (1)	2	3.00	249	2.10	249	1.60	249	1.30	249

60 Hertz SINGLE-PHASE MOTORS (1100 RPM)			VOLTAGE / WATTS							
			115V		208V		230V		277V	
MODEL	HP (QTY)	BLOWERS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
LS004	1/15 (1)	1	1.00	126	0.55	126	0.50	126	0.50	126
LS006	1/15 (1)	1	1.30	137	0.66	137	0.60	137	0.70	137

**Notes:** Motor full load amps listed refer to NEC amps. Actual motor nameplate amps may vary.

WILLIAMS VERTICAL FAN COILS 15

# SOUND DATA

MODEL / SIZE	FAN SPEED	OCTAVE BAND						
		2	3	4	5	6	7	8
		CENTER FREQUENCY (CPS)						
		125	250	500	1000	2000	4000	8000
LV002	High	46.0	47.0	44.0	40.0	36.0	30.0	26.0
	Medium	45.0	45.0	41.0	38.0	32.0	27.0	24.0
	Low	40.0	41.0	38.0	31.0	25.0	23.0	19.0
LV003	High	48.0	48.5	46.0	43.0	37.0	32.0	28.0
	Medium	46.0	47.0	44.0	41.0	34.0	29.5	25.5
	Low	42.0	43.0	40.0	33.5	38.0	24.0	21.0
LV004	High	50.0	51.0	49.0	45.0	39.0	34.5	29.5
	Medium	48.0	49.5	46.5	42.5	36.5	31.0	27.0
	Low	43.5	45.0	42.5	39.0	30.5	25.7	22.5
LV006	High	51.0	52.0	49.5	44.5	38.5	33.0	29.0
	Medium	48.0	50.0	47.0	41.5	37.0	31.5	27.0
	Low	44.0	45.5	42.5	34.5	30.2	26.0	22.5
LV008	High	52.0	53.0	47.5	42.5	36.0	31.5	28.0
	Medium	50.5	50.0	46.5	40.0	35.5	29.0	25.0
	Low	46.0	45.5	42.5	33.2	29.5	24.0	20.5
LV010	High	51.0	52.5	48.0	42.5	36.5	33.0	29.5
	Medium	49.0	50.0	46.0	42.0	34.0	30.0	26.5
	Low	44.5	45.5	41.5	35.3	28.2	24.5	22.0
LV012	High	50.0	51.5	46.0	42.0	36.0	31.5	29.0
	Medium	48.5	49.5	44.0	40.0	33.5	29.0	26.0
	Low	43.5	45.0	40.0	33.2	27.0	24.0	21.5
LS004	High	49.0	51.0	47.0	43.0	40.0	34.0	24.0
	Medium	46.0	48.0	45.5	41.0	37.0	30.0	24.0
	Low	42.5	45.0	41.5	38.0	31.0	24.0	22.0
LS006	High	50.0	51.5	48.0	43.0	36.0	31.0	27.5
	Medium	48.0	47.0	46.0	39.0	35.5	30.0	25.0
	Low	43.0	45.0	42.0	32.0	27.0	26.0	21.0

- Notes:**
- 1) Power levels are in dB RE 10-12 watts.
  - 2) Sound data tested in accordance with ASHRAE Standard 68 and ARI Standard 260 and 350.
  - 3) Ratings are based on actual CFM. Standard coils for LV002-004/LS004-006 is 3 rows and LV006-012 is 4 rows.
  - 4) Air Flow under dry coil conditions.

# WEIGHTS & MEASURES

The following LV & LS Series weights and measures are based on fan coil units only. Add approximately 20% for packaging and crating.

UNIT	MODEL	ROWS	DIMENSIONS/INCHES			WEIGHT/LBS.		DIMENSIONS/MILLIMETERS			WEIGHT/KG	
			HEIGHT	WIDTH	DEPTH	DRY	WET	HEIGHT	WIDTH	DEPTH	DRY	WET
LV SERIES BASIC	002	3	23	26	10	87	89	584	661	254	39.46	40.37
	002	2	23	26	10	86	89	584	661	254	39.01	40.37
	003	3	23	26	10	87	89	584	661	254	39.46	40.37
	003	2	23	26	10	86	89	584	661	254	39.01	40.37
	004	3	23	37	10	121	127	584	940	254	54.88	57.61
	004	4	23	37	10	128	135	584	940	254	58.06	61.23
	006	3	23	42	10	135	141	584	1067	254	61.23	63.96
	006	4	23	42	10	141	149	584	1067	254	63.96	67.59
	008	3	26	43	11	200	206	660	1092	280	90.72	93.44
	008	4	26	43	11	199	207	660	1092	280	90.26	93.89
	010	3	26	47	11	228	235	660	1194	280	103.42	106.59
	010	4	26	47	11	216	226	660	1194	280	97.98	102.51
	012	3	26	51	11	226	234	660	1296	280	102.51	106.14
	012	4	26	51	11	239	250	660	1296	280	108.41	113.40
LV SERIES DE-LUXE	002	3	26	36	12	143	145	660	915	305	64.86	65.77
	002	2	26	36	12	142	145	660	915	305	64.41	65.77
	003	3	26	36	12	143	145	660	915	305	64.86	65.77
	003	2	26	36	12	142	145	660	915	305	64.41	65.77
	004	3	26	53	12	209	215	660	1346	305	94.80	97.52
	004	4	26	53	12	146	153	660	1346	305	66.22	69.40
	006	3	26	53	12	235	241	660	1346	305	106.59	109.32
	006	4	26	53	12	216	224	660	1346	305	97.98	101.60
	008	3	30	58	12	260	266	762	1473	305	117.93	120.66
	008	4	30	58	12	268	276	762	1473	305	121.56	125.19
	010	3	30	58	12	270	277	762	1473	305	122.47	125.65
	010	4	30	58	12	281	291	762	1473	305	127.46	132.00
	012	3	30	69	12	309	317	762	1753	305	140.16	143.79
	012	4	30	69	12	318	329	762	1753	305	144.24	149.23
LV SERIES SLOPE TOP	002	3	30	36	12	143	145	762	915	305	64.86	65.77
	002	2	30	36	12	142	145	762	915	305	64.41	65.77
	003	3	30	36	12	143	145	762	915	305	64.86	65.77
	003	2	30	36	12	142	145	762	915	305	64.41	65.77
	004	3	30	53	12	199	205	762	1346	305	90.26	92.99
	004	4	30	53	12	205	212	762	1346	305	92.99	96.16
	006	3	30	53	12	216	222	762	1346	305	97.98	100.70
	006	4	30	53	12	216	224	762	1346	305	97.98	101.60
	008	3	34	58	13	260	266	864	1473	330	117.93	120.66
	008	4	34	58	13	268	276	864	1473	330	121.56	125.19
	010	3	34	58	13	280	287	864	1473	330	127.01	130.18
	010	4	34	58	13	281	291	864	1473	330	127.46	132.00
	012	3	34	69	13	318	326	864	1753	330	144.24	147.87
	012	4	34	69	12	321	332	864	1753	330	145.60	150.59



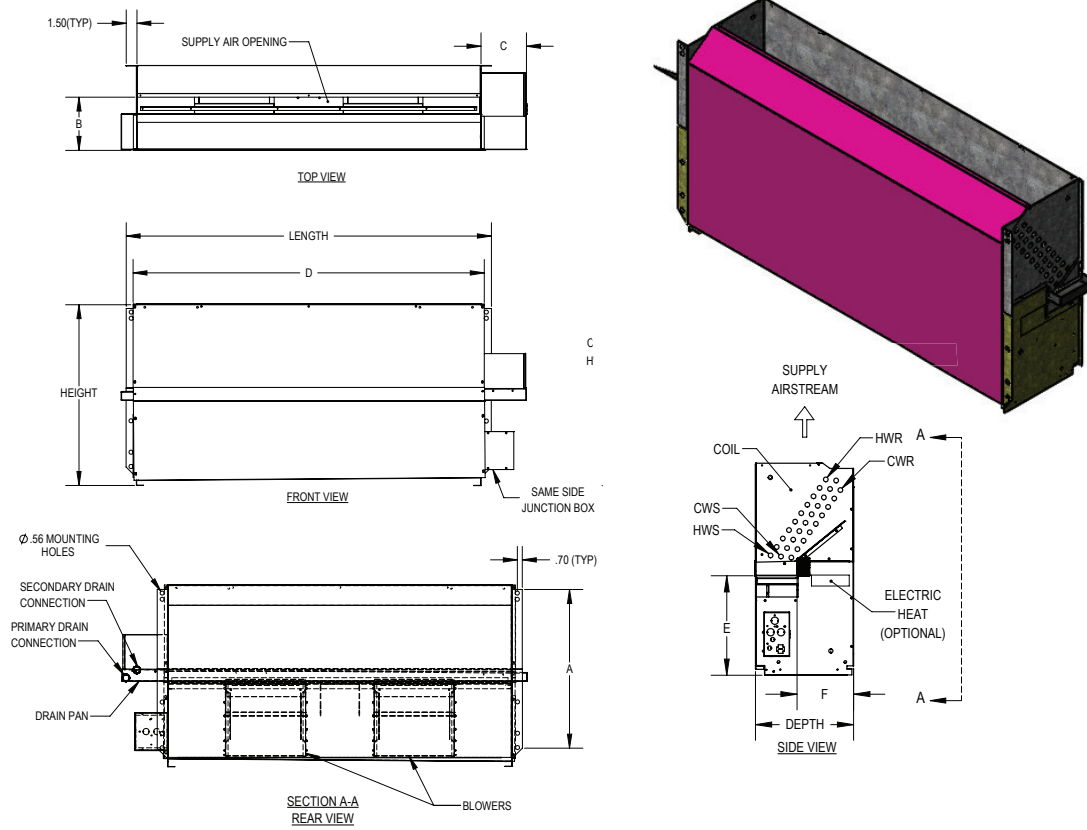
# WEIGHTS & MEASURES

The following LV & LS Series weights and measures are based on fan coil units only. Add approximately 20% for packaging and crating.

UNIT	MODEL	ROWS	DIMENSIONS/INCHES			WEIGHT/LBS.		DIMENSIONS/INCHES			WEIGHT/KG	
			HEIGHT	WIDTH	DEPTH	DRY	WET	HEIGHT	WIDTH	DEPTH	DRY	WET
LV SERIES BASIC	002	3	27	36	12	143	145	686	915	305	64.86	65.77
	002	2	27	36	12	142	145	686	915	305	64.41	65.77
	003	3	27	36	12	143	145	686	915	305	64.86	65.77
	003	2	27	36	12	142	145	686	915	305	64.41	65.77
	004	3	27	53	12	199	205	686	1346	305	90.26	92.99
	004	4	27	53	12	155	162	686	1346	305	70.31	73.48
	006	3	27	53	12	210	216	686	1346	305	95.25	97.98
	006	4	27	53	21	216	224	686	1346	305	97.98	101.60
	008	3	27	58	13	260	266	788	1473	330	117.93	120.66
	008	4	27	58	13	268	276	788	1473	330	121.56	125.19
	010	3	27	58	13	270	277	788	1473	330	122.47	125.65
	010	4	27	58	13	279	289	788	1473	330	126.55	131.09
LV SERIES DELUXE	002	3	27	36	12	143	145	788	915	305	64.86	65.77
	002	2	27	36	12	162	165	686	915	305	73.48	74.84
	003	3	27	36	12	143	145	686	915	305	64.86	65.77
	003	2	27	36	12	162	165	686	915	305	73.48	74.84
	004	3	27	53	12	200	206	686	1346	305	90.72	93.44
	004	4	27	53	12	205	212	686	1346	305	92.99	96.16
	006	3	27	53	12	205	211	686	1346	305	92.99	95.71
	006	4	27	53	12	216	224	686	1346	305	97.98	101.60
	008	3	31	58	13	269	275	686	1473	330	122.02	124.74
	008	4	31	58	13	298	276	788	1473	330	135.17	125.19
	010	3	31	58	13	290	297	788	1473	330	131.54	134.72
	010	4	31	58	13	281	291	788	1473	330	127.46	132.00
LV SERIES SLOPE TOP	002	3	30	30	12	103	105	788	762	305	46.72	47.63
	002	2	30	30	12	111	114	788	762	305	50.35	51.71
	003	3	30	30	12	122	124	762	762	305	55.34	56.25
	003	2	30	30	12	103	106	762	762	305	46.72	48.08
	004	3	30	41	12	139	145	762	1041	305	63.05	65.77
	004	4	30	41	12	155	162	762	1041	305	70.31	73.48
	006	3	30	46	12	151	157	762	1168	305	68.49	71.21
	006	4	30	46	12	151	159	762	1168	305	68.49	72.12
	008	3	33	47	13	187	193	762	1194	330	84.82	87.54
	008	4	33	47	13	160	168	762	1194	330	72.57	74.84
	010	3	33	51	13	163	170	839	1295	330	73.94	77.11
	010	4	33	51	13	173	183	839	1295	330	78.47	83.01
LS SRIES BASIC	004	2	15	44	17	113	117	381	1118	432	51.26	53.07
	004	3	15	44	17	114	119	381	1118	432	51.71	53.98
	006	2	15	44	17	112	116	381	1118	432	50.80	52.62
	006	3	15	44	17	123	129	381	1118	432	55.79	58.51
LS SERIES DELUXE	004	2	17	51	18	142	146	381	1296	457	64.41	66.22
	004	3	17	51	18	153	158	432	1296	457	69.40	71.67
	006	2	17	51	18	142	146	432	1296	457	64.41	66.22
	006	3	17	51	18	146	152	432	1296	457	66.22	68.95
LS SERIES FORNT DISCH	004	2	17	51	18	140	144	432	1296	457	63.50	65.32
	004	3	17	51	18	146	151	432	1296	457	66.22	68.49
	006	2	17	51	18	142	146	432	1296	457	64.41	66.22
	006	3	17	51	18	148	154	432	1296	457	67.13	69.85
LS SERIES RECESSED	004	2	16	45	18	135	139	407	457	457	61.23	63.05
	004	3	16	45	18	141	146	407	457	457	63.96	66.22
	006	2	16	45	18	135	139	407	457	457	61.23	63.05
	006	3	16	45	18	141	147	407	457	457	63.96	66.68

# VERTICAL BASIC

LV-B 200 - 1,200 CFM



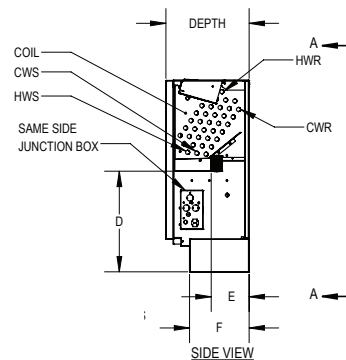
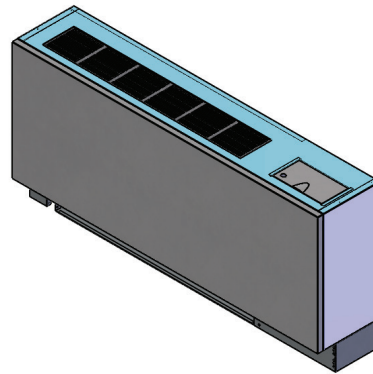
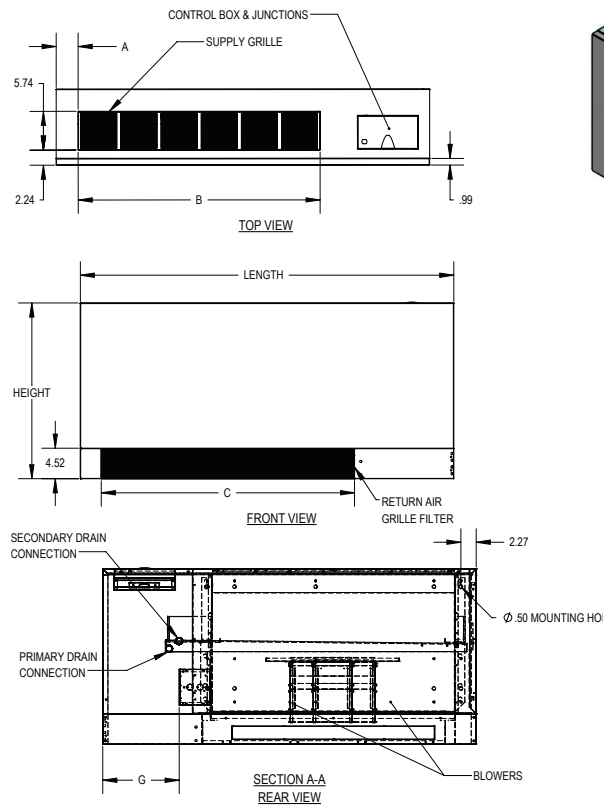
RIGHT HAND UNIT SHOWN, LEFT HAND UNIT OPPOSITE

MODEL BASIC	Length	Height	Depth	A	B	C	D	E	F	Blowers	FILTER SIZE
002-003	23	22	10	18	6	6	21	10.25	5	1	10 x 20 x 1
004	35	22	10	18	6	6	33	10.25	5	1	10 x 32 x 1
006	39	22	10	18	6	6	37	10.25	5	1	10 x 34 x 1
008	37	25	12	22	7	6	35	12	6.75	2	10 x 34 x 1
010	45	25	12	22	7	6	43	12	6.75	2	11 x 42 x 1
012	51	25	12	22	7	6	49	12	6.75	2	11 x 48 x 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.

# VERTICAL DELUXE

## LV-D 200 - 1,200 CFM

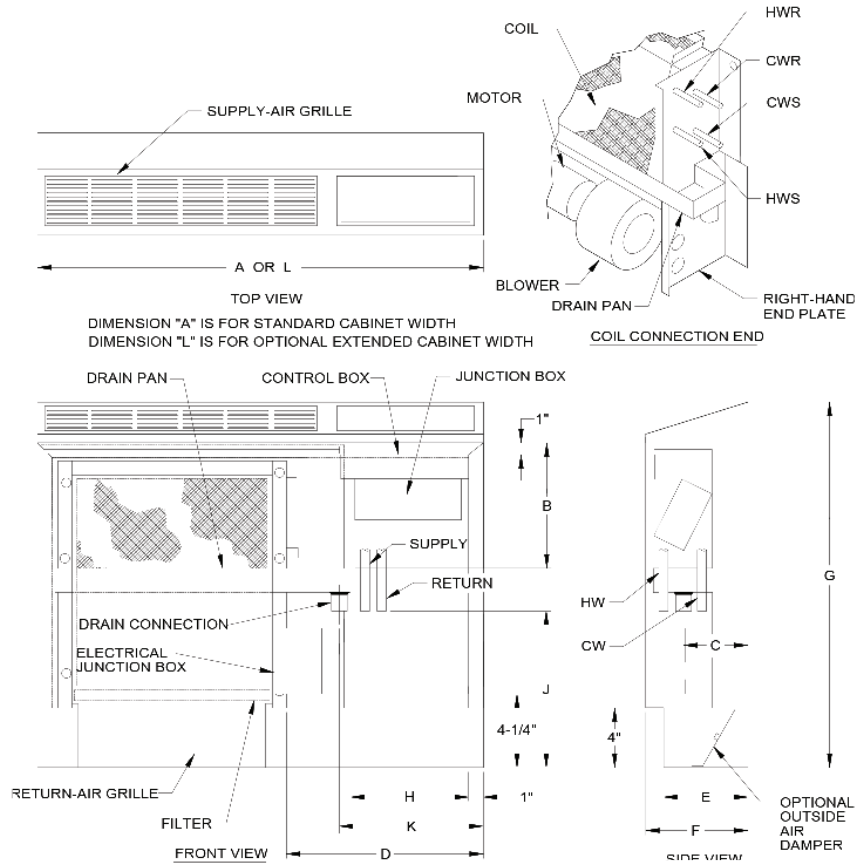


UNIT SIZE	Length	Height	Depth	A	B	C	D	E	F	G	Blowers	FILTER SIZE
002-003	39.13	26	10.25	2.45	24.38	19.91	9.5	5	8.5	9	1	10 x 20 x 1
004	50.13	26	10.25	1.95	35.76	31.94	9.5	5	8.5	9	1	10 x 31 x 1
006	55.13	26	10.25	3.25	35.76	35.95	9.5	5	8.5	9	1	10 x 36 x 1
008	53.13	30	12.25	2.36	35.76	34.13	10	5	10.5	9.75	2	11 x 34 x 1
010	61.13	30	12.25	3.5	41.46	42.13	10	5	10.5	9.75	2	11 x 42 x 1
012	67.13	30	12.25	3.5	47.39	48.13	10	5	10.5	9.5	2	11 x 48 x 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder-coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.

# VERTICAL SLOPE TOP

LV-S 200 - 1,200 CFM



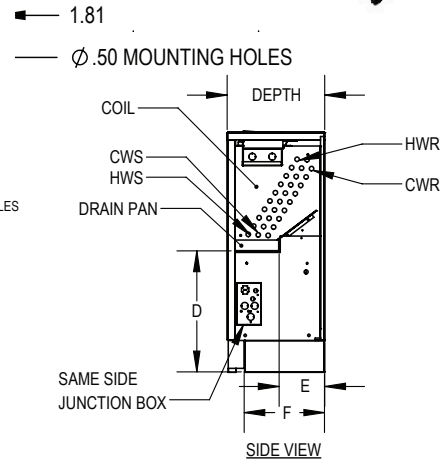
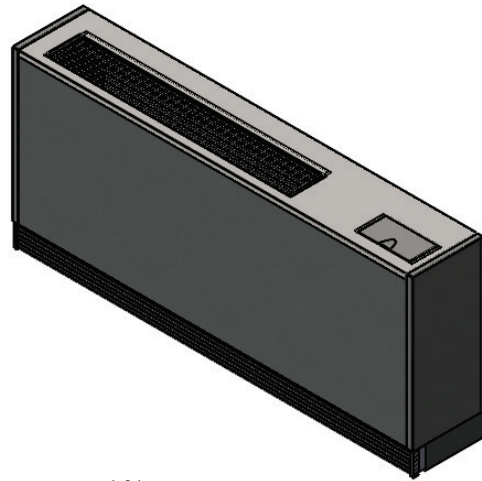
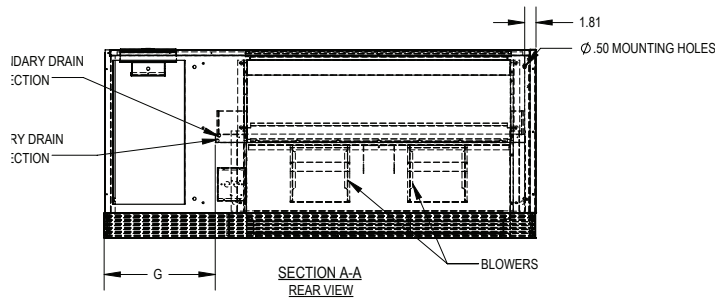
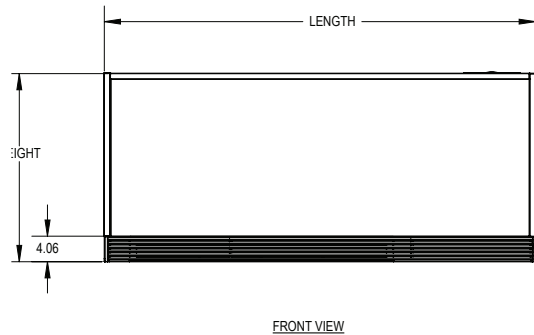
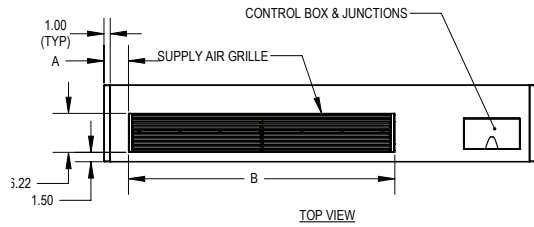
MODEL DELUXE	A	B	C	D	E	F	G	H	J	K	L	FILTER SIZE
200	35-1/4	11-3/8	6-3/4	14-1/8	8	11-1/4	30	7-7/8	10	9-5/8	40-7/8	10 x 20 x 1
300	35-1/4	11-3/8	6-3/4	14-1/8	8	11-1/4	30	7-7/8	10	9-5/8	40-7/8	10 x 20 x 1
400	52-1/8	11-3/8	6-3/4	18-1/2	8	11-1/4	30	13-7/8	10	15-3/4	57-3/4	10 x 31 x 1
600	52-1/8	11-3/8	6-3/4	13-1/4	8	11-1/4	30	8-3/4	10	10-1/2	57-3/4	10 x 36 x 1
800	57-3/4	14-5/8	8-1/2	18-1/8	10	12	34	13-3/8	11-7/8	15-1/8	63-3/8	11 x 34 x 1
1000	57-3/4	14-5/8	8-1/2	14-1/8	10	12	34	9-3/8	11-7/8	11-1/8	63-3/8	11 x 38 x 1
1200	69	14-5/8	8-3/4	21-1/4	10	12	34	16-3/4	11-7/8	18-1/2	66	11 X 42 X 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder-coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.



# VERTICAL MODULAR

LV-M 200 - 1,200 CFM

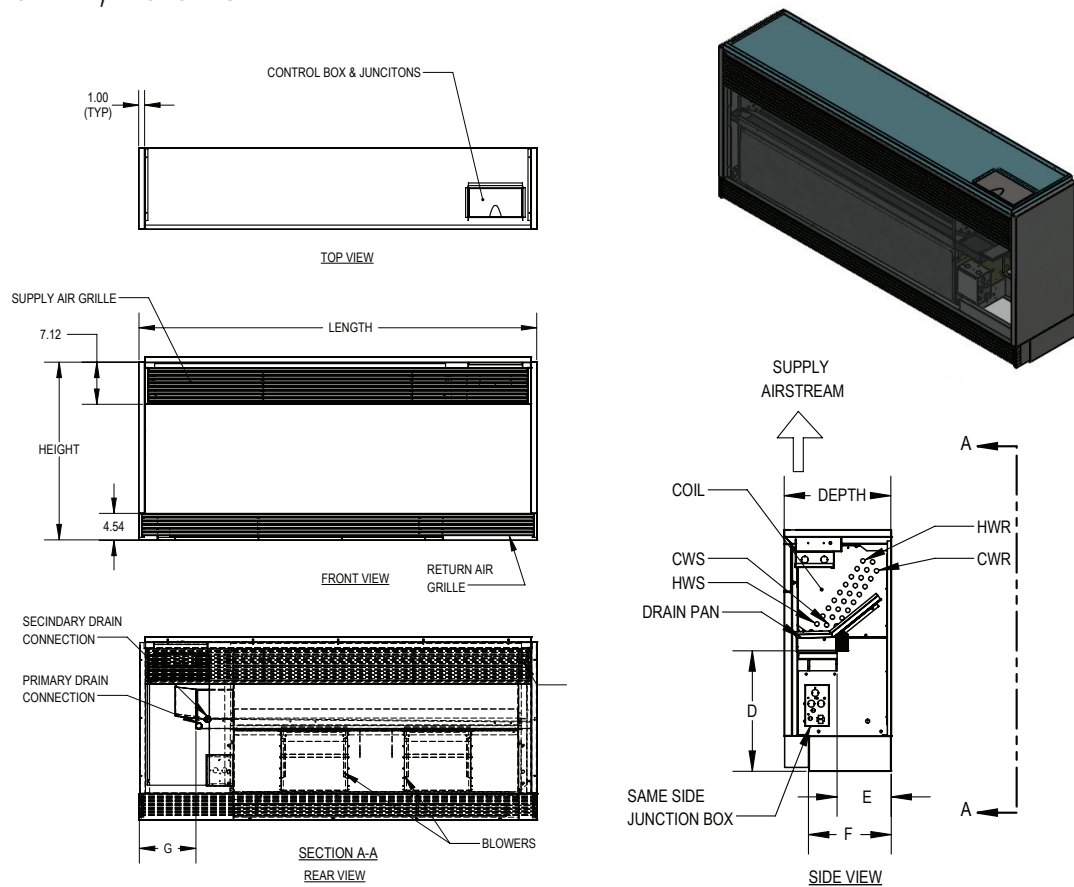


UNIT SIZE	Length	Height	Depth	A	B	C	D	E	F	Blowers	FILTER SIZE
002-003	39.13	26	10.25	2.45	24.38	9.5	5	8.5	9	1	10 x 20 x 1
004	50.13	26	10.25	1.95	35.76	9.5	5	8.5	9	1	10 x 31 x 1
006	55.13	26	10.25	3.25	35.76	9.5	5	8.5	9	1	10 x 36 x 1
008	53.13	30	12.25	2.36	35.76	10	5	10.5	9.75	2	11 x 34 x 1
010	61.13	30	12.25	3.5	41.46	10	5	10.5	9.75	2	11 x 42 x 1
012	67.13	30	12.25	3.5	47.39	10	5	10.5	9.5	2	11 x 48 x 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder-coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.

# VERTICAL FRONT DISCHARGE

LV-F 200 - 1,200 CFM



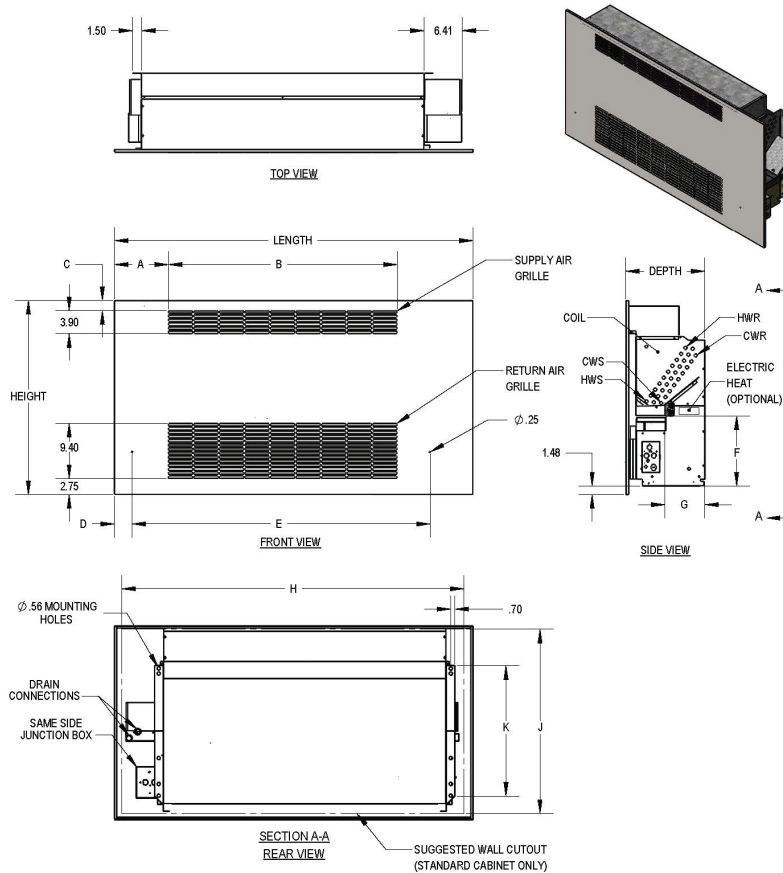
UNIT SIZE	Length	Height	Depth	D	E	F	G	Blowers	FILTER SIZE
002-003	39.13	26	10.25	9.5	5	8.5	9	1	10 x 20 x 1
004	50.13	26	10.25	9.5	5	8.5	9	1	10 x 31 x 1
006	55.13	26	10.25	9.5	5	8.5	9	1	10 x 36 x 1
008	53.13	30	12.25	10	5	10.5	9.75	2	11 x 34 x 1
010	61.13	30	12.25	10	5	10.5	9.75	2	11 x 42 x 1
012	67.13	30	12.25	10	5	10.5	9.5	2	11 x 48 x 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.

WILLIAMS VERTICAL FAN COILS 23

# VERTICAL RECESSED

LV-R 200 - 1,200 CFM

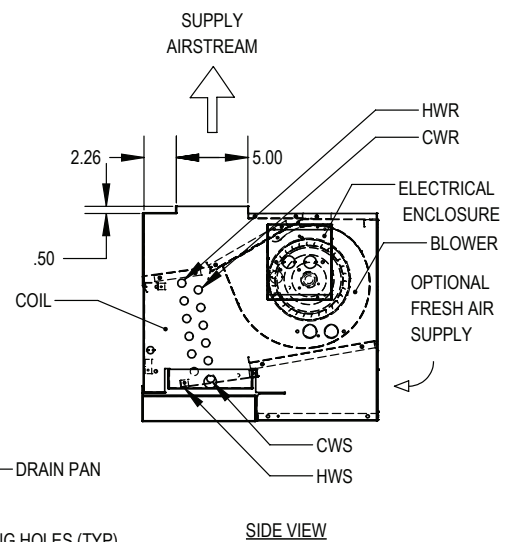
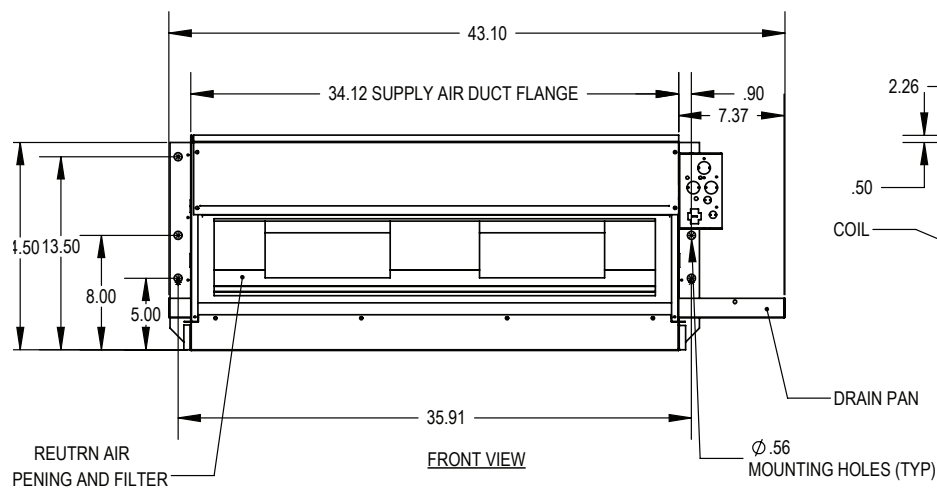
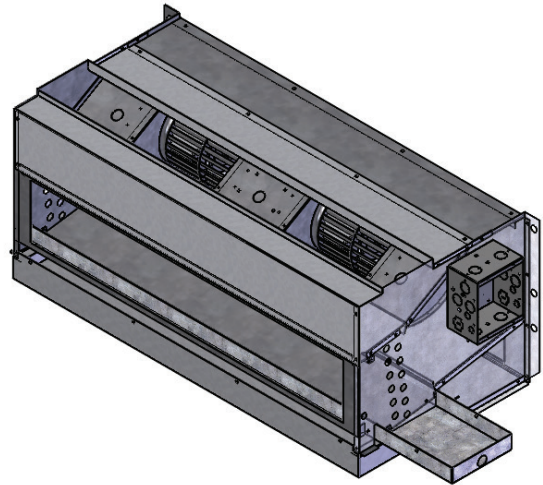
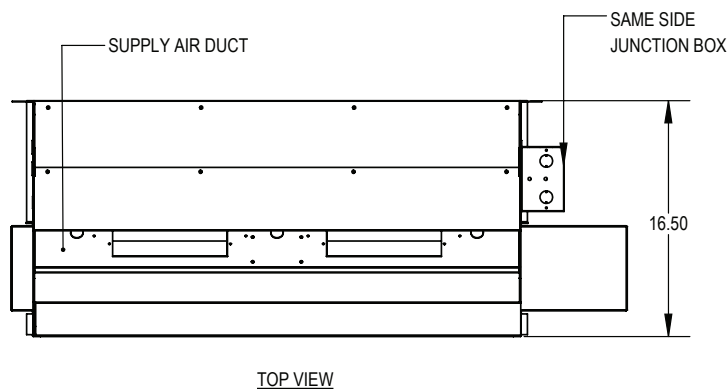


Overall				Air Grille				Wall Cutout							
UNIT SIZE	Length	Height	Depth	A	B	C	D	E	F	G	H	J	K	Blowers	FILTER SIZE
002-003	30	30	11.625	4.25	17.5	1.25	1.5	22.5	10.25	5	28	28	18	1	10 x 20 x 1
004	42	30	11.625	5.75	26	1.25	2	34.5	10.25	5	39	28	18	1	10 x 31 x 1
006	47	30	11.625	5.75	30	1.25	2	38.5	10.25	5	44	28	18	1	10 x 36 x 1
008	47	30	13.345	5.75	30	1.75	3	36.75	12	6.75	45	31	22	2	11 x 34 x 1
010	55	33	13.345	7	34.5	1.75	3	44.25	12	6.75	49	31	22	2	11 x 38 x 1
012	61	33	13.345	9	39	1.75	3	50.75	12	6.75	53	31	22	2	11 x 42 x 1

- All sizes shown in inches.
- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW on LV002-006, 3/4" CW on LV008-012 and 1/2" HW on LV002-012.

# LOW SILHOUETTE VERTICAL BASIC

## LS-B 400 - 600 CFM

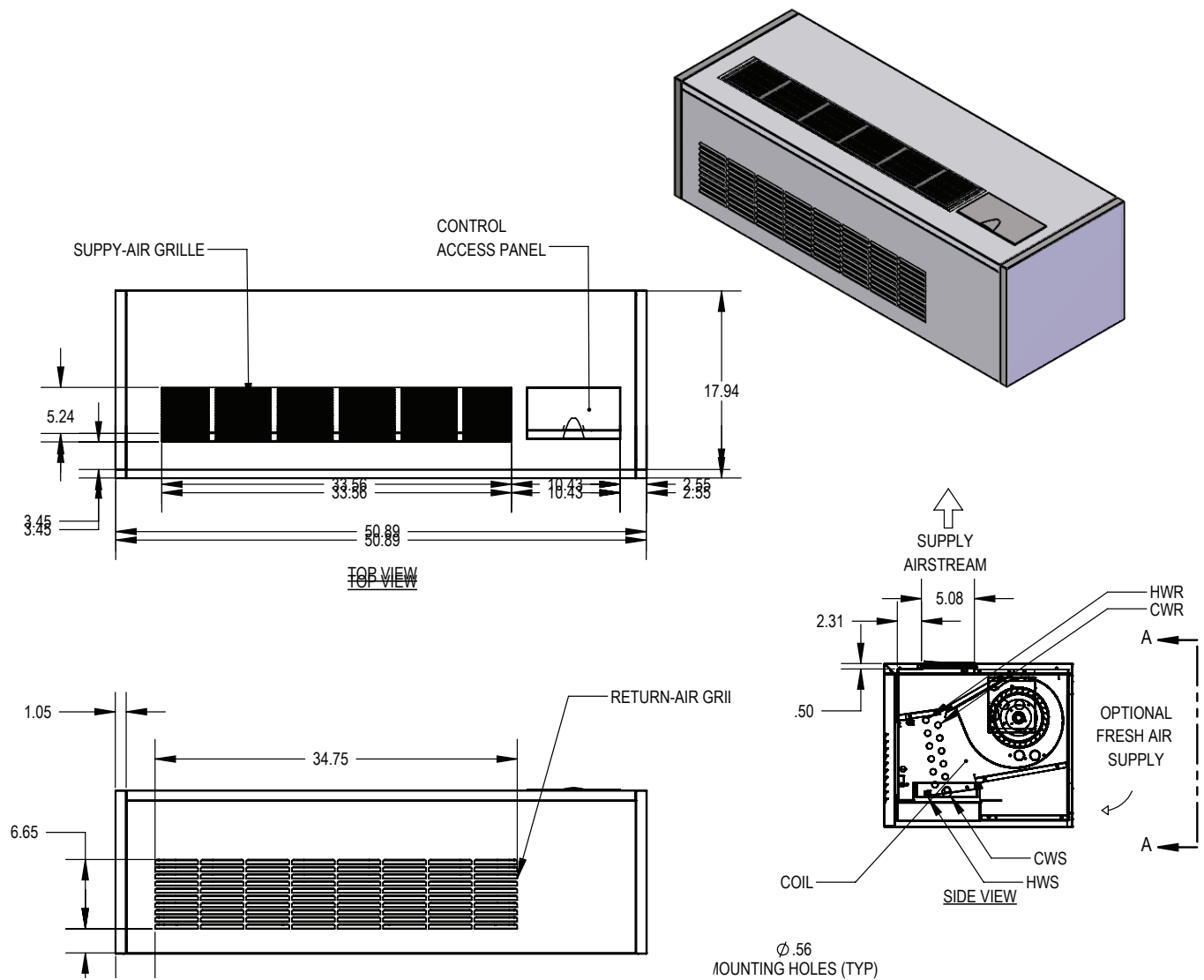


- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW and HW on LS004-006.



# LOW SILHOUETTE VERTICAL DELUXE TOP DISCHARGE

LS-D 400 - 600 CFM



- Right hand unit shown, left hand unit opposite.
- Coil connections determined by facing the supply air opening.
- Electrical junction box is located on the same side as the coil connections.
- Unit must be installed level and condensate drain lines should be trapped.
- Drain pan is powder-coated epoxy with a 1/8" thick Elastomeric insulation and has 3/4" NPT primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy gauge, galvanized steel.
- Coil connections: 1/2" CW and HW on LS004-006.

# GENERAL INFORMATION

Furnish and install Williams LV & LS Series Vertical Direct Drive Fan Coil Units where indicated on the plans and in the specifications. Units shall be completely factory assembled, tested and shipped as one piece. All units shall be capable of meeting or exceeding the scheduled capacities for cooling, heating and air delivery. All unit dimensions for each model and size shall be considered maximums. Units shall be ETL listed and also in compliance with ANSI standard 1995, and be certified as complying with the latest edition AHRI standard 440.

## CONSTRUCTION

All unit chassis shall be fabricated of heavy gauge galvanized steel panels able to meet 125 hour salt spray test per ASTM B-117. All exterior panels shall be insulated with 1/2" thick, 1.5 pound per cubic foot, dual density fiberglass insulation rated for a maximum air velocity of 3600 f.p.m. Insulation shall conform to UL 181 for erosion and NFPA 90A and 90B for flame spread (25) and smoke developed (50) rating per ASTM E-84 and UL 723 and CAN/ULC, S102-M88.

All exposed units shall have exterior panels fabricated of not less than 18 gauge galvanized steel. The front panel of recessed units shall be attached with quarter turn quick open fasteners to allow for easy removal and access for service.

**OPTION:** Provide a 16 gauge front panel on exposed units.

Slope Top and recessed units shall include a recessed stamped louver discharge grille.

**OPTION:** Provide an architectural grade single deflection discharge grille with a powder coated paint finish to match cabinet color.

**OPTION:** Provide an architectural grade bar discharge grille with a powder coated paint finish to match cabinet color.

**OPTION:** Provide foil faced insulation in lieu of standard. Foil faced insulation shall meet or exceed the requirements stated above, and in addition, meet ASTM Standards C-665 and C-1136 for biological growth in insulation. Insulation shall be lined with aluminum foil, fiberglass scrim reinforcement, and 30 pound kraft paper laminated together with a flame resistant adhesive. All exposed edges shall be sealed to prevent

any fibers from reaching the air stream.

**OPTION:** Provide elastomeric closed cell insulation in lieu of standard. Insulation shall conform to UL 181 for erosion and NFPA 90A for fire, smoke and melting, and comply with a 25/50 Flame Spread and Smoke Developed Index per ASTM E-84 or UL 723. Additionally, insulation shall comply with antimicrobial performance rating of 0, no observed growth, per ASTM G-21. Polyethylene insulation is not acceptable.

Unit mounting shall be to the wall through 1/2" holes in four locations in the back of the unit.

## PAINTED FINISH

All exposed cabinet exterior panels shall be finished with a soft white powder coated epoxy finish.

## SOUND

Units shall have published sound power level data tested in accordance with ARI Standard 350-2000.

## FAN / DRAIN PAN ASSEMBLY

Unit fan shall be dynamically balanced, forward curved, DWDI centrifugal type constructed of heavy gauge galvanized steel for corrosion resistance. Motors shall be high efficiency, permanently lubricated sleeve bearing, permanent split-capacitor type with UL and C-UL listed automatic reset thermal overload protection and three separate horsepower taps. Single speed motors are not acceptable.

Condensate drain pans shall be single wall, heavy gauge galvanized steel for corrosion resistance, and extend under the entire coil section. Drain pans shall be of one-piece construction and be positively sloped for condensate removal.

The drain pan shall be externally insulated with a fire retardant, Elastomeric closed cell insulation. The insulation shall carry no more than a 25/50 Flame Spread and Smoke Developed Rating per ASTM E-84 and UL723 and fungi resistant per ASTM G21/C1338, bacteria resistant per ASTM G22 and mold growth per UL 181. The fan/drain pan assembly shall be removed and serviced through the front panel. The entire

assembly shall be able to come out of the unit easily by removing two wing nuts and unplugging the motor.

**OPTION:** Provide a drain pan constructed entirely of heavy gauge type 304 stainless steel for superior corrosion resistance. Stainless steel drain pans shall be externally insulated and meet or exceed the requirements stated above.

**OPTION:** Devices used to energize and de-energize (switch) fan speeds must be totally silent. Mercury and/or quiet relays and/or contactors are not acceptable.

## COILS

All cooling and heating coils shall optimize rows and fins per inch to meet the specified capacity. Coils shall have seamless copper tubes and shall be mechanically expanded to provide an efficient, permanent bond between the tube and fin.

Fins shall have high efficiency aluminum surface optimized for heat transfer, air pressure drop and carryover.

All coils shall be tested at 350 PSIG air pressure under water, and rated for a maximum 300 PSIG working pressure at 180°F maximum water temperature. Heating coils shall be furnished in the reheat position as standard.

Direct expansion cooling coils shall include a distributor and nozzle.

Steam coils shall be standard single tube steam type suitable for temperatures above 35°F and 15 PSIG maximum working pressure.

All water coils shall be provided with a manual air vent fitting to allow for coil venting.

**OPTION:** Provide automatic air vents in lieu of manual-air vents.

## FILTERS

All units shall be furnished with a minimum 1" nominal glass fiber throwaway filter. Filters shall be tight fitting to prevent air bypass. Filters shall be easily removable from the return-air opening without the need for tools or removal of the front panel.

**OPTION:** Provide unit with 1" pleated filter (MERV 13).

**OPTION:** Provide a decorative stamped louver grille in the return air opening.

## ELECTRICAL

Units shall be furnished with single point power connection. Provide an electrical junction box for motor and other electrical components, termination or wiring connections in accordance with wiring diagram supplied with the unit.

## ELECTRIC HEAT

Furnish an electric resistance heating assembly as an integral part of the fan coil unit, with the heating capacity, voltage and kilowatts scheduled. The heater assembly shall be rated for installation on the fan coil unit and be located so as not to expose the fan assembly to excessive leaving air temperatures that could affect motor performance.

The heater and unit assembly shall be listed for zero clearance and meet all NEC requirements, and be UL listed with the unit as an assembly and also in compliance with UL/ANSI Standard 1995.

All internal wiring shall be rated for 90°C minimum.

All heaters shall include over temperature protection consisting of an automatic reset primary thermal limit and replaceable back up secondary thermal limit. All heaters shall be single stage.

All units shall be provided with an incoming line power distribution block, designated to accept single point power wiring capable of carrying 125% of the calculated load current.

**OPTION:** Devices used to energize and de-energize (switch) electric heat must be totally silent. Mercury and/or quiet relays and/or contactors are not acceptable.

# GENERAL INFORMATION

## PIPING PACKAGES

Provide a factory assembled valve piping package to consist of a 2 or 3 way, on/off, motorized electric control valve and two ball isolation valves. Control valves shall be piped normally closed to the coil. Maximum entering water temperature on the control valve shall be 200°F, and maximum operating pressure shall be 300 PSIG.

**OPTION:** Provide 3-wire floating point modulating control valve (fail in place) in lieu of standard 2 position control valve with factory assembled valve piping package.

**OPTION:** Provide high pressure close off actuator for 2 way on/off control valve. Maximum close off pressure is 75 PSIG (1/2") or 50 PSIG (3/4").

Piping packages are shipped installed on all units and can be shipped separately by request only.

## OUTSIDE AIR DAMPER

Provide a manual or two position motorized outside air damper integral to the unit.

**OPTION:** Provide an aluminum outside air wall box with louvers and integral bug screen and weep holes for field installation as indicated in catalog.





# NOTES



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