



Product Catalog

LWHA-Marvel

Ceiling Air Handling Unit

Air Flow 2,000~15,000CMH



Product Features

LWHA Marvel is a compact ceiling hung air handling unit specially designed for small commercial buildings, shopping centers, light industrial buildings, universities, schools, stores and other applications.

The unit has many options including higher efficiency secondary filter, hot water coil, electric heaters, humidifier and stainless steel drain pan to meet various design applications requirement.

LWHA's compact casing is ideal solution for new or replacement market with tight ceiling space. With lower noise level, it is easy to install and operate. Equipped with powerful double inlet centrifugal supply fan for maximum air flow capabilities and higher static, the unit is designed with wider cooling capacity ranges.

Product Features

Quality Unit

Robust casing construction with 15mm thick PE or 25mm PU insulation ensures reliable unit operation and prevents casing condensation.

Cooling Coil with Hydrophilic Coated Fin

Coils with hydrophilic coated fin feature superior heat transfer performance, making longer life span for coils and preventing moisture carry over.

Space Saving

Low height and light weight compact casing reduce space requirement.

Ease of Servicing

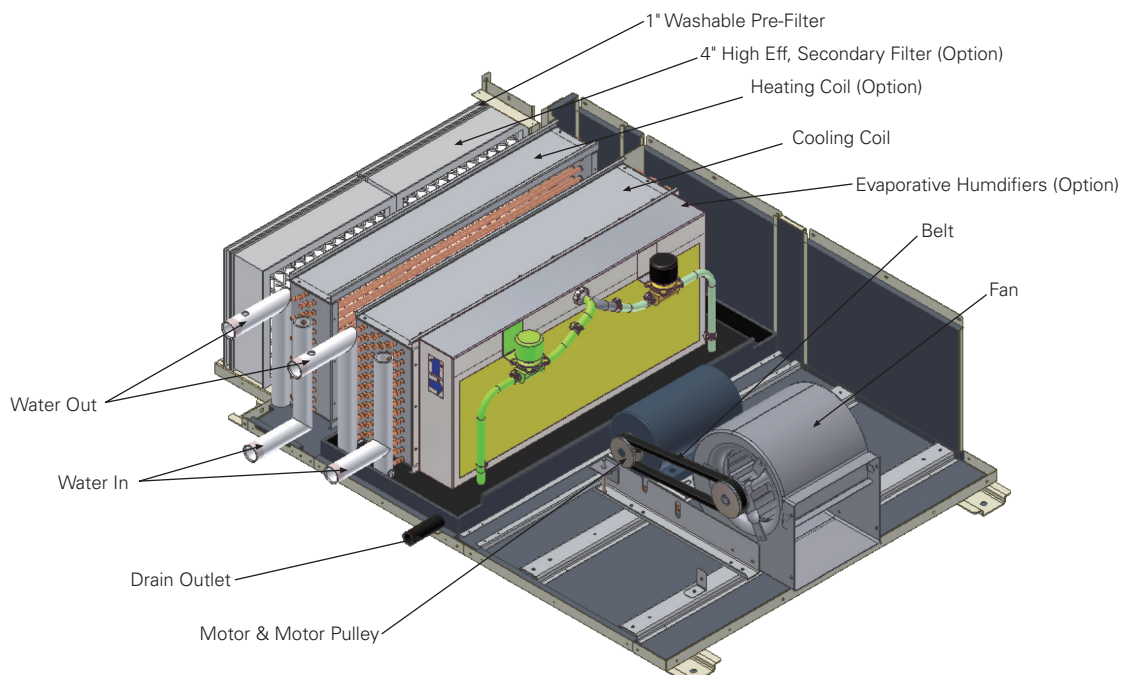
Filter are removable from both sides, which provides easier filter serving and maintenance work for the unit.

Ease of Installation

Suspension brackets and electrical terminal box are provided as standard options to simplify installation work and reduce project cost.

Computerized Selection

Proven Trane TOPSS computer selection program provides optimized product selection and more accurate performance prediction.



Model Number Description

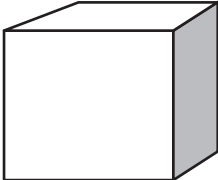
$\frac{L}{1}$	$\frac{W}{2}$	$\frac{H}{3}$	$\frac{A}{4}$	$\frac{0}{5}$	$\frac{8}{6}$	$\frac{0}{7}$	$\frac{1}{8}$	$\frac{1}{9}$	$\frac{4}{10}$	$\frac{2}{11}$	$\frac{L}{12}$	$\frac{0}{13}$	$\frac{0}{14}$	$\frac{G}{15}$	$\frac{3}{16}$	$\frac{0}{17}$	$\frac{1}{18}$	$\frac{0}{19}$	$\frac{A}{20}$
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Digit 1,2,3,4	Product Name LWHA Marvel	B = IE3 Motor (3P/380V/50Hz) C = IE3 Motor (3P/400V/50Hz) D = IE3 Motor (3P/415V/50Hz) X = IE3 Motor (3P/380V/60Hz) W = Direct drive (3P/380V/50Hz)
Digit 5,6,7	Unit Size 020, 030, 031, 040, 041, 050, 060 080, 100, 120, 150 (11 sizes)	
Digit 8	Airflow Code (Please refer to page 12)	Digit 17
Digit 9	ESP 1 = 50 Pa 2 = 100 Pa 3 = 150 Pa 4 = 200 Pa 5 = 250 Pa 6 = 300 Pa 7 = 350 Pa L = Low ESP (Only for direct drive) H = High ESP (Only for direct drive)	Application 0 = Std. return air condition 1 = Std. fresh air condition 2 = Earthwise return air condition 3 = Earthwise fresh air condition
Digit 10	Cooling Option 4 = 4 Row Cooling Coil 6 = 6 Row Cooling Coil	Digit 18
Digit 11	Heating Option 0 = No Heating Option 1 = 1 Row Heating Coil 2 = 2 Row Heating Coil E = Electric Heating Option	Design Code 1 = Default number
Digit 12	Connection Side L = Left Hand R = Right Hand	Digit 19
Digit 13	Filter Option 0 = Nylon Filter 1 = 1" Washable Filter 2 = 2" Washable Filter 3 = Nylon + Plug-in PCO 4 = 1" Washable Filter + Plug-in PCO 5 = 2" Washable Filter + Plug-in PCO A = Aluminum Filter B = Nylon Filter + 4" Secondary Filter C = 1" Washable Filter + 4" Secondary Filter D = Aluminum Filter + 4" Secondary Filter E = Aluminum Filter + Plug-in PCO F = Nylon Filter + 4" Secondary Filter + Plug-in PCO G = 1" Washable Filter + 4" Secondary Filter + Plug-in PCO H = Aluminum Filter + 4" Secondary Filter + Plug-in PCO	Country Code 1 = HongKong 2 = AP Others 3 = MAIR 4 = LAR
Digit 14	Humidifier Option 0 = None 4 = 40% Efficiency Evaporative Humidifier 6 = 60% Efficiency Evaporative Humidifier	Digit 20
Digit 15	Drain Pan G = Galvanized Steel S = Stainless Steel	Unit Type A = Single Skin, Unit with flexible option, Galvanized Steel B = Single Skin, Basic Unit, Galvanized Steel C = Single Skin, Unit with flexible option, Painted Steel D = Single Skin, Basic Unit, Painted Steel F = Double Skin, Basic Unit, EXT: Painted Steel/INT: Galvanized Steel
Digit 16	Motor L = IE2 Motor (3P/380V/50Hz) R = IE2 Motor (3P/400V/50Hz) S = IE2 Motor (3P/415V/50Hz) V = IE2 Motor (3P/380V/60Hz)	

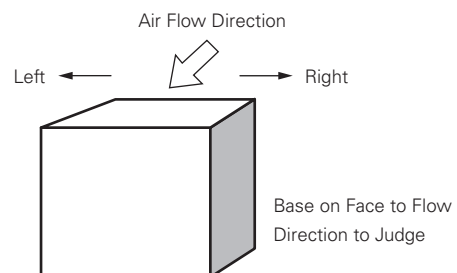
Note:* Option unit configuration:
Filter + Hot water coil or Electric Heater + Cooling Coil + Humidifier + Fan
Basis unit configuration:
Single Skin: Filter (Digit 13: 0,1,A,3,4,E) + Cooling Coil + Fan
Double Skin: Filter (Digit 13: 0,1,2,A,3,4,5,E) + Cooling Coil + Fan
** Only basic unit for 031, 041
*** Only basic unit for double skin
**** Only basic unit for direct drive
***** Electric Heater Power:
020 = 4 kW 080 = 16 kW
030 = 6 kW 100 = 20 kW
040 = 8 kW 120 = 24 kW
050 = 10 kW 150 = 30 kW
060 = 12 kW

Air Flow Direction

Left ← → Right



Base on Face to Flow Direction to Judge



General Specification

Model			020	030	031	040	041	050	060	080	100	120	150
Nominal Airflow		CMH	2000	3000	3000	4000	4000	5000	6000	8000	10000	12000	15000
Drive Option			Belt Driven										
Cooling Capacity (Standard Return air condition)	4 Row	kW	11.7	17.1	17.2	22.9	23.4	29.3	34.8	46.4	59.7	71.4	90.7
	6 Row	kW	14.8	21.8	22.0	28.0	28.3	36.3	43.5	60.0	75.1	89.8	113.1
Cooling Capacity (Standard Fresh air condition)	4 Row	kW	26.7	39.7	37.1	53.2	50.5	68.1	76.7	99.0	127.1	157.6	186.1
	6 Row	kW	33.3	47.7	47.4	64.4	64.7	81.9	100.8	128.5	161.0	192.6	252.8
Cooling Capacity (Earthwise Return air condition)	4 Row	kW	11.0	17.4	17.3	23.4	23.6	29.8	34.4	41.8	56.4	67.4	87.6
	6 Row	kW	13.7	21.5	20.8	29.0	28.9	37.9	45.6	58.9	74.7	89.3	111.1
Cooling Capacity (Earthwise Fresh air condition)	4 Row	kW	27.0	41.0	38.0	52.4	50.8	64.3	81.3	105.0	131.7	157.3	190.9
	6 Row	kW	32.0	49.7	50.0	65.7	63.3	83.6	100.0	136.9	159.9	191.2	246.8
Heating Capacity (Enter air -4°C)	1 Row	kW	11.9	18.1	-	23.4	-	29.7	36.3	39.9	48.8	58.5	72.5
	2 Row	kW	21.1	31.8	-	40.4	-	51.1	62.2	72.6	89.1	106.9	132.5
Heating Capacity (Enter air 7°C)	1 Row	kW	9.4	14.5	-	18.8	-	23.9	29.2	31.9	39.1	46.9	58.3
	2 Row	kW	16.5	25	-	32.6	-	41.3	50.3	58.4	71.7	86.1	106.9
Heating Capacity (Enter air 15°C)	1 Row	kW	7.7	11.8	-	15.4	-	19.6	24.1	26.2	32.1	38.6	48.0
	2 Row	kW	13.5	20.6	-	26.8	-	34	41.5	48.0	59.1	70.9	88.3
Single Skin	Unit Dimen- -sions	Length (Option) Unit	mm	1510	1510	-	1510	-	1620	1620	1830	1830	1830
		Length (Basic Unit)	mm	990	990	990	990	990	1120	1120	1380	1380	1380
		Width	mm	970	1330	1007	1600	1264	1600	1910	1910	2200	2600
		Height	mm	400	400	510	400	510	510	510	630	630	725
	Unit Maximum Weight	Option unit	kg	153	201	-	231	-	268	297	401	456	503
		Basic unit	kg	94	123	115	139	130	165	190	285	313	400
Double Skin	Unit Dimen- -sions	Length (Basic Unit)	mm	1031	1031	1031	1031	1031	1161	1161	1421	1421	1421
		Width	mm	990	1350	1025	1620	1282	1620	1930	1930	2220	2620
		Height	mm	425	425	535	425	535	535	535	655	655	750
	Unit Maximum Weight	Option unit	kg	111	147	135	165	151	199	224	330	363	401
Filter Quantity				2	3	2	3	2	3	3	4	4	4
Filter Size (H x W)			mm	308X385	308X376.5	420X403.5	308X466.5	420X530	418X466.5	418X570	518X570	518X500	613X500
												613X600	

Remarks:

1. Cooling Entering Air Temperature: Return Air Condition (DB/WB):27/19.5°C, Fresh Air Condition (DB/WB):35/28°C.
2. Cooling Entering/Leaving Water Temperature: Standard Condition: 7/12°C, Earthwise Condition: 5/13°C.
3. Heating Entering/Leaving Water Temperature: 60/50°C.
4. Heat coil is unavailable for double skin unit now.

Performance of direct drive

Model Size	Airflow	TSP	Velocity Pressure	ESP		Motor Power
				4 Rows Coil	6 Rows Coil	
	CMH	Pa	Pa	Pa	Pa	kW
LWHA020L	1500	321	20	257	231	0.37
	2000	297	35	194	153	
	2500	234	58	84	-	
LWHA030L	2600	232	26	147	114	0.25×2
	3000	226	32	118	76	
	3500	198	43	57	-	
LWHA031L	2600	310	70	202	178	0.8
	3000	260	92	124	94	
	3500	181	127	-	-	
LWHA040L	3600	311	30	208	168	0.37×2
	4000	297	35	173	125	
	4500	270	47	118	61	
LWHA041L	3600	371	75	267	250	1.1
	4000	312	98	188	168	
	4500	234	116	82	58	
LWHA050L	4600	340	50	237	200	0.55×2
	5000	320	60	200	156	
	5500	290	75	145	95	
LWHA060L	6000	260	92	141	99	0.8×2
	6500	221	110	82	-	
	7000	181	127	-	-	
LWHA020H	1500	324	18	260	234	0.45
	2000	331	33	228	187	
	2500	287	50	137	78	
LWHA030H	2600	280	17	195	162	0.32×2
	3000	298	22	190	148	
	3500	305	30	164	110	
LWHA031H	2600	478	54	370	346	0.8
	3000	455	73	319	289	
	3500	410	98	234	197	
LWHA040H	3600	317	25	214	174	0.45×2
	4000	331	33	207	159	
	4500	312	41	160	103	
LWHA041H	3600	417	74	313	296	1.1
	4000	390	90	266	246	
	4500	332	116	180	156	
LWHA050H	4600	395	37	292	255	0.55×2
	5000	380	44	260	216	
	5500	356	54	211	161	
LWHA060H	6000	455	73	336	294	0.8×2
	6500	434	85	295	247	
	7000	409	98	252	197	

Notes:

- Unit configuration: Nylon filter + Coil + Fan.
- The cooling capacity, heating capacity and overall dimension of direct drive are the same as those of belt drive.

Coil Performance Table (Standard Condition)

4 Row

Model Size	Airflow	Return Air Condition				Fresh Air Condition			
		Cooling Capacity	Heating Capacity	WFR	WPD	Cooling Capacity	Heating Capacity	WFR	WPD
	CMH	kW	kW	L/s	kPa	kW	kW	L/s	kPa
LWHA 020	1500	9.7	17.6	0.5	22.1	22.0	21.6	1.1	17.5
	2000	11.7	21.6	0.6	30.5	26.7	26.6	1.3	24.3
	2500	13.4	25.1	0.7	38.6	30.6	31.1	1.5	30.8
LWHA 030	2600	15.6	28.8	0.8	21.5	36.2	35.8	1.8	19.3
	3000	17.1	31.9	0.9	25.1	39.7	39.7	1.9	22.7
	3500	18.7	35.4	0.9	29.6	43.7	44.2	2.1	26.8
LWHA 031	2600	15.6	28.4	0.7	15	33.8	35.8	1.6	40
	3000	17.2	31.5	0.8	17	37.1	39.9	1.8	48
	3500	19.0	35.1	0.9	18	40.9	44.6	2.0	59
LWHA 040	3600	21.4	39.1	1.1	39.0	49.8	48.6	2.4	41.3
	4000	22.9	42.0	1.1	43.7	53.2	52.4	2.6	46.4
	4500	24.5	45.5	1.2	49.3	57.2	56.8	2.8	52.6
LWHA 041	3600	21.9	38.6	1.0	34	47.3	48.3	2.2	52
	4000	23.4	41.6	1.1	39	50.5	52.2	2.4	60
	4500	25.1	45.2	1.2	44	54.2	56.8	2.6	65
LWHA 050	4600	27.8	50.7	1.4	37.3	64.6	62.7	3.1	39.3
	5000	29.3	53.7	1.5	40.9	68.1	66.6	3.3	43.1
	5500	31.1	57.3	1.5	45.1	72.3	71.2	3.5	47.8
LWHA 060	6000	34.8	64.3	1.7	36.0	76.7	72.7	3.7	64.4
	6500	36.6	67.9	1.8	39.2	80.5	76.6	3.9	70.0
	7000	38.2	71.3	1.9	42.3	84.1	80.2	4.1	75.6
LWHA 080	7500	44.5	85.3	2.1	24	95.1	107.4	4.5	10
	8000	46.4	89.4	2.2	26	99.0	112.9	4.7	11
	8500	48.2	93.4	2.3	28	102.7	118.1	4.9	12
LWHA 100	9000	55.9	103.0	2.7	42	119.0	128.9	5.7	15
	9500	57.8	107.2	2.8	44	123.1	134.3	5.9	16
	10000	59.7	111.2	2.9	46	127.1	139.6	6.1	17
LWHA 120	10500	65.6	120.8	3.1	41	139.8	150.9	6.7	14
	11000	67.6	125.0	3.2	43	143.9	156.4	6.9	15
	12000	71.4	133.1	3.4	46	157.6	167.0	7.2	17
LWHA 150	13000	82.9	149.8	4.0	76	170.5	186.3	8.1	24
	14000	86.9	158.2	4.1	79	178.5	197.1	8.5	25
	15000	90.7	166.2	4.3	82	186.1	207.1	8.9	27

Remarks:

1. Cooling Return Air Condition (DB/WB):27/19.5°C, Cooling Fresh Air Condition (DB/WB):35/28°C, Entering/Leaving Water Temperature: 7/12°C.
2. Heating Return Air Condition (DB):15°C, Heating Fresh Air Condition (DB):7°C, Entering Water Temperature: 60°C, water flow is same as the cooling condition.

Coil Performance Table (Standard Condition)

6 Row

Model Size	Airflow	Return Air Condition				Fresh Air Condition			
		Cooling Capacity	Heating Capacity	WFR	WPD	Cooling Capacity	Heating Capacity	WFR	WPD
	CMH	kW	kW	L/s	kPa	kW	kW	L/s	kPa
LWHA 020	1500	11.9	20.4	0.6	20.4	26.7	24.6	1.3	22.6
	2000	14.8	25.8	0.8	29.4	33.3	31.2	1.6	33.0
	2500	17.2	30.6	0.9	38.4	39.1	37.3	1.9	43.6
LWHA 030	2600	19.6	34.0	1.0	24.0	42.8	41.0	2.1	12.9
	3000	21.8	38.1	1.1	28.7	47.7	49.1	2.3	15.5
	3500	24.3	42.9	1.2	34.6	53.4	52.2	2.6	18.8
LWHA 031	2600	19.9	33.8	1.0	31	42.7	41.4	2.0	34.0
	3000	22.0	38.0	1.1	37	47.4	46.7	2.3	43.0
	3500	24.5	43.0	1.2	46	52.8	53.0	2.5	55.0
LWHA 040	3600	26.0	46.1	1.3	27.1	59.6	56.1	2.9	28.0
	4000	28.0	50.0	1.4	30.9	64.4	61.2	3.1	32.1
	4500	30.4	54.7	1.5	35.5	70.0	67.1	3.4	37.1
LWHA 041	3600	26.2	45.5	1.3	34	59.9	56.1	2.9	39.0
	4000	28.3	49.5	1.4	40	64.7	61.2	3.1	44.0
	4500	30.7	54.3	1.5	45	70.2	67.3	3.3	49.0
LWHA 050	4600	34.1	59.6	1.7	30.9	77.0	72.3	3.7	26.4
	5000	36.3	63.7	1.8	34.3	81.9	77.4	4.0	29.3
	5500	38.8	68.5	1.9	38.9	87.8	83.5	4.2	33.2
LWHA 060	6000	43.5	76.5	2.1	36.4	100.8	93.6	4.9	51.3
	6500	46.1	81.4	2.2	40.1	106.9	99.9	5.2	56.8
	7000	48.5	86.1	2.4	43.8	112.8	106.0	5.4	62.4
LWHA 080	7500	57.3	100.3	2.7	57	122.6	122.4	5.8	18
	8000	60.0	105.8	2.9	61	128.5	129.4	6.2	20
	8500	62.6	111.2	3.0	65	134.2	136.2	6.4	22
LWHA 100	9000	69.7	120.5	3.3	102	149.2	146.7	7.1	30
	9500	72.4	126.1	3.5	107	155.2	153.7	7.4	32
	10000	75.1	131.5	3.6	106	161.0	160.5	7.7	34
LWHA 120	10500	81.7	141.0	3.9	101	174.9	171.5	8.3	29
	11000	84.4	146.6	4.0	107	181.0	178.6	8.6	31
	12000	89.8	157.5	4.3	106	192.6	192.3	9.2	35
LWHA 150	13000	102.0	173.1	4.9	55	227.3	211.2	10.8	62
	14000	107.7	184.0	5.1	59	240.3	225.0	11.5	68
	15000	113.1	194.7	5.4	63	252.8	238.5	12.1	75

Remarks:

1. Cooling Return Air Condition (DB/WB):27/19.5°C, Cooling Fresh Air Condition (DB/WB):35/28°C, Entering/Leaving Water Temperature: 7/12°C.
2. Heating Return Air Condition (DB):15°C Heating Fresh Air Condition (DB):7°C, Entering Water Temperature: 60°C, water flow is same as the cooling condition.

Coil Performance Table (Earthwise Condition)

4 Row

Model Size	Airflow	Return Air Condition			Fresh Air Condition		
		Cooling Capacity	WFR	WPD	Cooling Capacity	WFR	WPD
	CMH	kW	L/s	kPa	kW	L/s	kPa
LWHA 020	1500	9.1	0.3	11.5	22.3	0.7	17.7
	2000	11.0	0.4	15.9	27.0	0.9	24.5
	2500	12.6	0.4	20.0	30.9	1.0	31.0
LWHA 030	2600	15.9	0.5	25.7	37.5	1.2	37.2
	3000	17.4	0.6	30.0	41.0	1.3	43.6
	3500	19.1	0.6	35.2	49.0	1.4	51.2
LWHA 031	2600	15.7	0.5	11	34.8	1.0	42
	3000	17.3	0.5	13	38.0	1.1	50
	3500	19.1	0.6	16	41.7	1.2	58
LWHA 040	3600	22.0	0.7	44.2	49.1	1.5	37.1
	4000	23.4	0.7	49.4	52.4	1.6	41.5
	4500	25.1	0.8	55.7	56.2	1.7	46.9
LWHA 041	3600	22.1	0.7	14	47.7	1.4	54
	4000	23.6	0.7	15	50.8	1.5	60
	4500	25.3	0.8	18	54.4	1.6	70
LWHA 050	4600	28.3	0.9	37.6	60.9	1.9	15.8
	5000	29.8	0.9	41.1	64.3	2.0	17.3
	5500	31.6	1.0	45.5	68.4	2.1	19.2
LWHA 060	6000	34.4	1.1	28.9	81.3	2.5	31.5
	6500	36.1	1.1	31.4	85.5	2.6	34.4
	7000	37.8	1.2	33.9	89.5	2.7	37.2
LWHA 080	7500	39.9	1.2	9	100.9	3.0	32
	8000	41.8	1.2	10	105.0	3.1	34
	8500	43.6	1.3	11	108.9	3.2	37
LWHA 100	9000	52.7	1.6	18	123.4	3.7	54
	9500	54.6	1.6	19	127.6	3.8	57
	10000	56.4	1.7	20	131.7	3.9	60
LWHA 120	10500	61.8	1.8	18	144.9	4.3	52
	11000	63.8	1.9	19	149.2	4.4	55
	12000	67.4	2.0	21	157.3	4.7	61
LWHA 150	13000	80.2	2.4	34	175.1	4.6	71
	14000	84.0	2.5	37	183.3	4.9	77
	15000	87.6	2.6	40	190.9	5.1	83

Remarks:

1. Cooling Return Air Condition (DB/WB):27/19.5°C, Cooling Fresh Air Condition (DB/WB):35/28°C, Entering/Leaving Water Temperature: 5/13°C.

Coil Performance Table (Earthwise Condition)

6 Row

Model Size	Airflow	Return Air Condition			Fresh Air Condition		
		Cooling Capacity	WFR	WPD	Cooling Capacity	WFR	WPD
	CMH	kW	L/s	kPa	kW	L/s	kPa
LWHA 020	1500	11.0	0.4	8.0	25.6	0.8	9.4
	2000	13.7	0.5	11.5	32.0	1.0	13.7
	2500	16.0	0.5	15.1	37.4	1.2	18.0
LWHA 030	2600	19.4	0.6	18.1	44.7	1.4	25.2
	3000	21.5	0.7	21.7	49.7	1.5	30.2
	3500	24.0	0.8	26.1	55.5	1.7	36.4
LWHA 031	2600	18.6	0.6	11	45.1	1.3	38
	3000	20.8	0.6	14	50.0	1.5	46
	3500	23.3	0.7	17	55.6	1.7	54
LWHA 040	3600	26.9	0.9	29.2	60.9	1.9	39.4
	4000	29.0	0.9	33.1	65.7	2.0	44.9
	4500	31.4	1.0	38.0	71.3	2.2	51.7
LWHA 041	3600	26.8	0.8	10	58.8	1.8	41
	4000	28.9	0.9	12	63.3	1.9	47
	4500	31.3	0.9	14	68.5	2.0	53
LWHA 050	4600	35.8	1.1	38.6	78.6	2.4	37.2
	5000	37.9	1.2	42.7	83.6	2.5	41.3
	5500	40.5	1.3	47.8	89.4	2.7	46.5
LWHA 060	6000	45.6	1.4	38.5	100.0	3.0	37.0
	6500	48.2	1.5	42.5	106.1	3.2	40.9
	7000	50.7	1.6	46.4	111.6	3.4	44.8
LWHA 080	7500	56.3	1.7	27	130.6	3.9	76
	8000	58.9	1.8	29	136.9	4.1	82
	8500	61.5	1.8	31	142.9	4.3	89
LWHA 100	9000	69.4	2.1	44	148.5	3.5	75
	9500	72.1	2.2	47	154.3	3.7	80
	10000	74.7	2.2	50	159.9	3.8	85
LWHA 120	10500	81.4	2.4	44	174.2	4.2	73
	11000	84.2	2.5	46	180.0	4.3	77
	12000	89.3	2.7	51	191.2	4.6	86
LWHA 150	13000	100.3	3.0	27	223.0	6.6	68
	14000	105.8	3.2	29	235.2	7.0	75
	15000	111.1	3.3	32	246.8	7.4	81

Remarks:

1. Cooling Return Air Condition (DB/WB):27/19.5°C, Cooling Fresh Air Condition (DB/WB):35/28°C, Entering/Leaving Water Temperature: 5/13°C.

Performance Table

Heating Coil

Model Size	Airflow	1 Row						2 Row					
		Entering Dry Bulb temperature : 7°C			Entering Dry Bulb temperature : 15°C			Entering Dry Bulb temperature : 7°C			Entering Dry Bulb temperature : 15°C		
		Heating Capacity	WFR	WPD	Heating Capacity	WFR	WPD	Heating Capacity	WFR	WPD	Heating Capacity	WFR	WPD
	CMH	kW	L/s	kPa	kW	L/s	kPa	kW	L/s	kPa	kW	L/s	kPa
LWHA 020	1500	8.3	0.3	4	6.7	0.2	7	14.0	0.4	6	11.5	0.3	4
	2000	9.4	0.3	4	7.7	0.2	8	16.5	0.5	8	13.5	0.4	6
	2500	10.4	0.3	5	8.5	0.3	9	18.5	0.5	10	15.1	0.4	7
LWHA 030	2600	13.6	0.4	11	11.1	0.3	7	23.1	0.6	21	19.0	0.5	14
	3000	14.5	0.4	12	11.8	0.3	8	25.0	0.7	24	20.6	0.6	16
	3500	15.5	0.4	14	12.7	0.4	9	27.1	0.7	28	22.3	0.6	19
LWHA 040	3600	17.9	0.5	21	14.7	0.4	15	30.8	0.8	41	25.4	0.7	29
	4000	18.8	0.5	23	15.4	0.4	16	32.6	0.8	45	26.8	0.7	32
	4500	19.8	0.5	25	16.2	0.4	18	34.6	0.9	50	28.5	0.7	36
LWHA 050	4600	23.0	0.6	21	18.9	0.5	13	39.5	1.0	40	32.5	0.8	28
	5000	23.9	0.6	23	19.6	0.5	16	41.3	1.1	43	34.0	0.9	30
	5500	24.9	0.7	24	20.4	0.5	17	46.1	1.1	47	35.7	0.9	33
LWHA 060	6000	29.2	0.8	39	24.1	0.6	27	50.3	1.3	73	41.5	1.1	52
	6500	30.3	0.8	41	24.9	0.7	29	52.5	1.3	79	43.3	1.1	56
	7000	31.3	0.8	44	25.7	0.7	31	54.5	1.4	84	45.0	1.1	60
LWHA 080	7500	30.8	0.7	15	25.3	0.6	10	56.2	1.4	12	46.3	1.1	9
	8000	31.9	0.8	16	26.2	0.6	11	58.4	1.4	13	48.0	1.2	9
	8500	33.0	0.8	16	27.0	0.7	11	60.4	1.5	14	49.7	1.2	10
LWHA 100	9000	37.0	0.9	23	30.4	0.7	16	67.5	1.6	20	55.7	1.3	14
	9500	38.1	0.9	25	31.3	0.8	17	69.7	1.7	21	57.4	1.4	15
	10000	39.1	0.9	26	32.1	0.8	18	71.7	1.7	22	59.1	1.4	15
LWHA 120	10500	43.7	1.1	23	35.9	0.9	16	79.7	1.9	19	65.7	1.6	13
	11000	44.8	1.1	24	36.8	0.9	17	81.9	2.0	20	67.5	1.6	14
	12000	46.9	1.1	26	38.6	0.9	18	86.1	2.1	22	70.9	1.7	15
LWHA 150	13000	54.0	1.3	39	44.4	1.1	28	98.5	2.4	33	81.4	2.0	23
	14000	56.2	1.4	42	46.2	1.1	30	102.8	2.5	36	84.9	2.0	25
	15000	58.3	1.4	45	48.0	1.2	32	106.9	2.6	38	88.3	2.1	27

Remarks: Entering/Leaving Hot Water Temperature: 60/50°C.

Evaporative Humidifier Capacity

Unit	Airflow	Humidification capacity (Kg/h) Fresh air condition Entering Air: DB 28°C/RH 10%		Humidification capacity (Kg/h) Mixed air condition Enter Air Condition DB 28°C/RH 25%	
		40% Efficiency	60% Efficiency	40% Efficiency	60% Efficiency
LWHA	m3/h				
020	2000	5.5	9.0	4.5	7.4
030	3000	8.3	13.6	6.8	11.1
040	4000	11.1	18.1	9.1	14.8
050	5000	13.8	22.6	11.3	18.5
060	6000	16.6	27.1	13.6	22.2
080	8000	22.1	36.2	18.1	29.6
100	10000	27.7	45.2	22.7	37.0
120	12000	33.2	54.2	27.2	44.4
150	15000	41.5	67.8	34.0	55.5

Fan & Motor Parameter

4 Row

Model Size	Basic unit: 1" WA Filter+ 4 Row Coil + Fan									
	ESP (Pa)			50	100	150	200	250	300	350
	Airflow	ESP Code		1	2	3	4	5	6	7
	CMH	Airflow code	Velocity Pressure	Motor Power: kW						
LWHA 020	1500	1	25	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW
	2000	2	45	0.55kW	0.55kW	0.55kW	0.55kW	0.75kW	0.75kW	0.75kW
	2500	3	75	0.75kW	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.10kW
LWHA 030	2600	1	20	0.55kW	0.55kW	0.75kW	0.75kW	1.10kW	1.10kW	-
	3000	2	25	0.55kW	0.75kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW
	3500	3	35	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	-
LWHA 031	2600	1	45	0.55kW	0.55kW	0.55kW	0.55kW	0.75kW	0.75kW	0.75kW
	3000	2	65	0.55kW	0.75kW	0.75kW	0.75kW	1.10kW	1.10kW	1.10kW
	3500	3	85	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW
LWHA 040	3600	1	35	0.75kW	0.75kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW
	4000	2	45	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW
	4500	3	60	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	-
LWHA 041	3600	1	85	0.75kW	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.10kW
	4000	2	105	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	1.50kW
	4500	3	135	1.50kW	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW
LWHA 050	4600	1	35	0.75kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW
	5000	2	45	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW
	5500	3	55	1.10kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	2.20kW
LWHA 060	6000	1	65	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW
	6500	2	75	1.50kW	2.20kW	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW
	7000	3	85	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW
LWHA 080	7500	1	55	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	3.00kW
	8000	2	60	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW
	8500	3	70	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW
LWHA 100	9000	1	80	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW
	9500	2	85	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW	3.00kW
	10000	3	95	3.00kW	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW
LWHA 120	10500	1	50	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW
	11000	2	55	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	4.00kW
	12000	3	70	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW	4.00kW
LWHA 150	13000	1	80	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW	4.00kW
	14000	2	95	3.00kW	4.00kW	4.00kW	4.00kW	4.00kW	5.50kW	5.50kW
	15000	3	110	4.00kW	4.00kW	4.00kW	5.50kW	5.50kW	5.50kW	5.50kW

Remark: The ESP in this page is the external static pressure at the outlet of the unit, the velocity pressure in this page is the velocity pressure at the outlet of the fan. The sum of these two is the total external pressure.

Fan & Motor Parameter

6 Row

Model Size	Basic unit: 1" WA Filter+ 6 Row Coil + Fan									
	ESP (Pa)			50	100	150	200	250	300	350
	Airflow	ESP Code		1	2	3	4	5	6	7
	CMH	Airflow code	Velocity Pressure	Motor Power: kW						
LWHA 020	1500	1	25	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW	0.55kW
	2000	2	45	0.55kW	0.55kW	0.55kW	0.75kW	0.75kW	0.75kW	1.10kW
	2500	3	75	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.10kW	-
LWHA 030	2600	1	20	0.55kW	0.55kW	0.75kW	1.10kW	1.10kW	1.10kW	-
	3000	2	25	0.75kW	0.75kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW
	3500	3	35	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	-	-
LWHA 031	2600	1	45	0.55kW	0.55kW	0.55kW	0.75kW	0.75kW	0.75kW	1.10kW
	3000	2	65	0.75kW	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.10kW
	3500	3	85	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	1.50kW
LWHA 040	3600	1	35	0.75kW	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW
	4000	2	45	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	-
	4500	3	60	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	-	-
LWHA 041	3600	1	85	0.75kW	1.10kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW
	4000	2	105	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	1.50kW	1.50kW
	4500	3	135	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	2.20kW	2.20kW
LWHA 050	4600	1	35	0.75kW	1.10kW	1.10kW	1.10kW	1.50kW	1.50kW	2.20kW
	5000	2	45	1.10kW	1.10kW	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW
	5500	3	55	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	2.20kW	2.20kW
LWHA 060	6000	1	65	1.50kW	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	2.20kW
	6500	2	75	2.20kW	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW
	7000	3	85	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW
LWHA 080	7500	1	55	1.50kW	1.50kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW
	8000	2	60	2.20kW	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW
	8500	3	70	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW
LWHA 100	9000	1	80	2.20kW	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW
	9500	2	85	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW
	10000	3	95	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW	4.00kW
LWHA 120	10500	1	50	2.20kW	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW
	11000	2	55	2.20kW	3.00kW	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW
	12000	3	70	3.00kW	3.00kW	3.00kW	4.00kW	4.00kW	4.00kW	5.50kW
LWHA 150	13000	1	80	3.00kW	3.00kW	4.00kW	4.00kW	4.00kW	4.00kW	5.50kW
	14000	2	95	4.00kW	4.00kW	4.00kW	4.00kW	5.50kW	5.50kW	5.50kW
	15000	3	110	4.00kW	5.50kW	5.50kW	5.50kW	5.50kW	5.50kW	7.50kW

Remark: The ESP in this page is the external static pressure at the outlet of the unit, the velocity pressure in this page is the velocity pressure at the outlet of the fan. The sum of these two is the total external pressure.

Unit Dimensions(Single Skin Unit)

Option Unit - 020

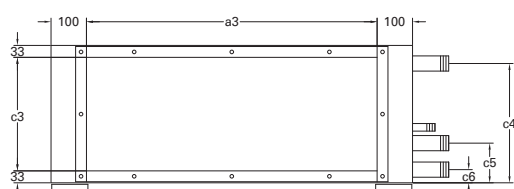
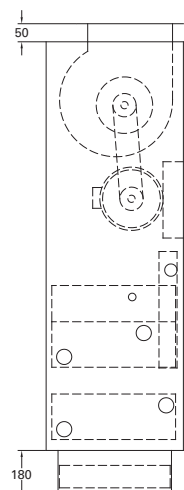
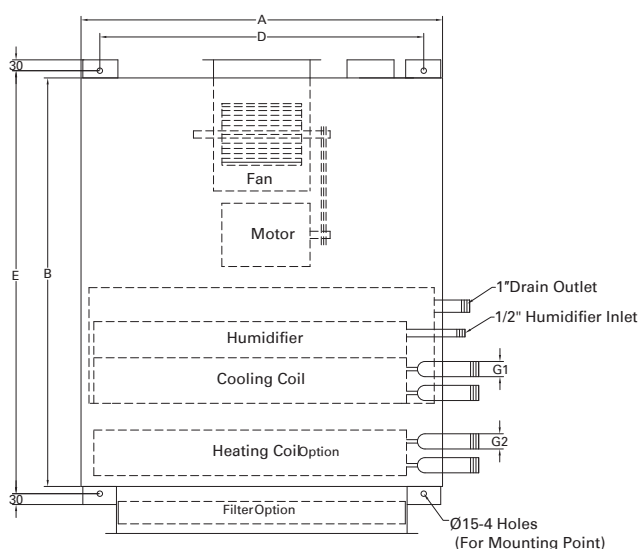
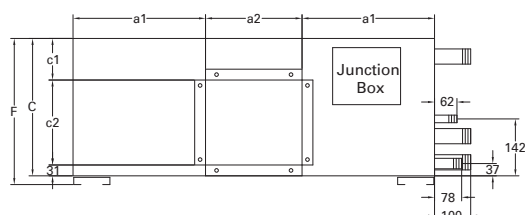
Model	A	B	C	D	E	F	G2	
							1Row	2 Row
020	970	1280	380	870	1320	400	DN32	DN32

Inlet/Outlet Water Pipe Size G1							
Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
DN32	DN32	DN32	DN32	DN32	DN32	DN32	DN32

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C; "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	c1	c2	c3	c4	c5	c6	
									1Row	2Row
020	353	265	770	116	233	314	330	110	59	46

Remarks: Flange width 30mm.



Unit Dimensions (Single Skin Unit)

Basic Unit-020,031,041

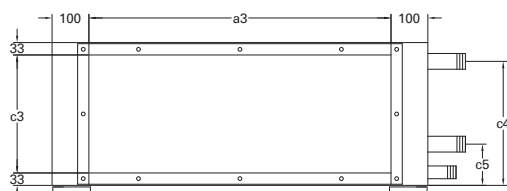
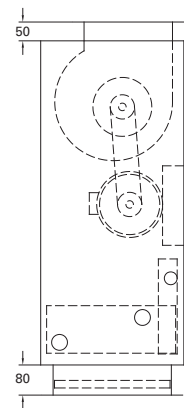
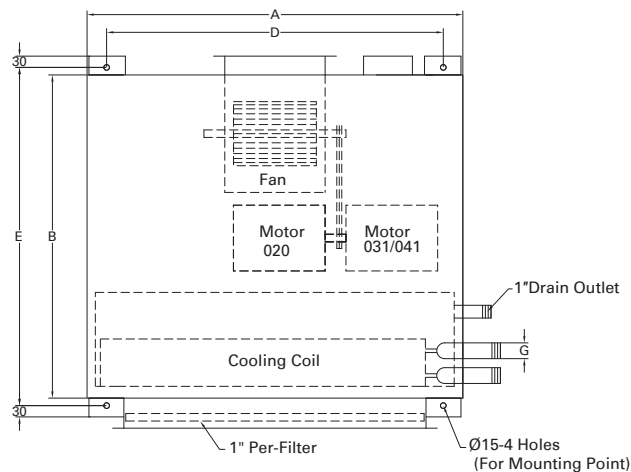
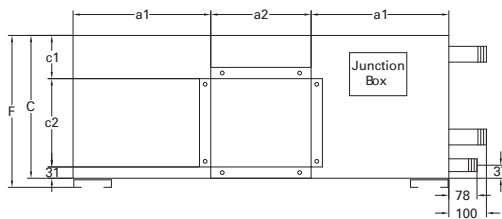
Model	A	B	C	D	E	F
020	970	860	380	870	900	400
031	1007	860	490	905	900	510
041	1264	860	490	1161	900	510

Model	Inlet/Outlet Water Pipe Size G							
	Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
020	DN32	DN32	DN32	DN32	DN32	DN32	DN32	DN32
031	DN32	DN32	DN32	DN32	DN32	DN32	DN32	DN32
041	DN32	DN32	DN32	DN32	DN32	DN32	DN32	DN32

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C;
 "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	a4	c1	c2	c3	c4	c5
020	353	265	770	353	116	233	314	330	110
031	458	271	809	278	166	294	421	443	106
041	497	271	1064	497	166	294	421	443	106

Remarks: Flange width 30mm.



Unit Dimensions (Single Skin Unit)

Option Unit-030,040,050,060

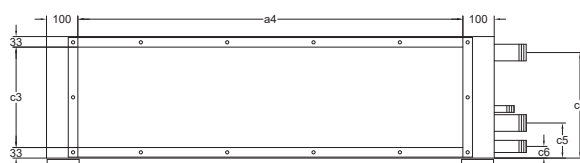
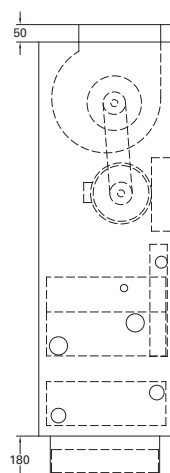
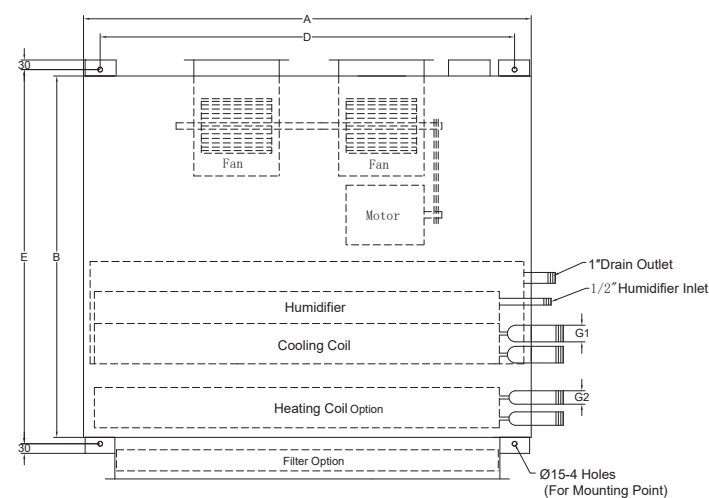
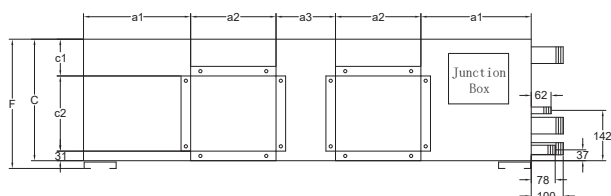
Model	A	B	C	D	E	F	G2	
							1Row	2 Row
030	1330	1280	380	1230	1320	400	DN32	DN32
040	1600	1280	380	1500	1320	400	DN32	DN32
050	1600	1390	490	1500	1430	510	DN32	DN32
060	1910	1390	490	1800	1430	510	DN32	DN32

Model	Inlet/Outlet Water Pipe Size G							
	Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
030	DN32	DN32	DN32	DN40	DN32	DN32	DN32	DN32
040	DN32	DN32	DN40	DN50	DN32	DN32	DN32	DN32
050	DN32	DN40	DN50	DN50	DN32	DN32	DN40	DN40
060	DN40	DN40	DN50	DN50	DN32	DN32	DN40	DN40

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C;
 "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	a4	c1	c2	c3	c4	c5	c6	
										1Row	2Row
030	311	265	178	1130	116	233	314	330	110	59	46
040	446	265	178	1400	116	233	314	330	110	59	46
050	425	271	208	1400	165	294	424	434	115	63	50

Remarks: Flange width 30mm.



Unit Dimensions (Single Skin Unit)

Basic Unit-030,040,050,060

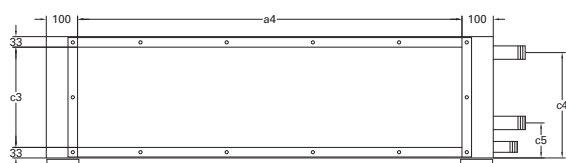
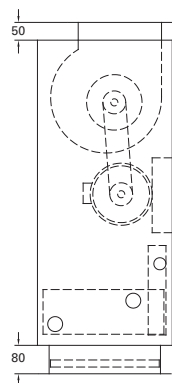
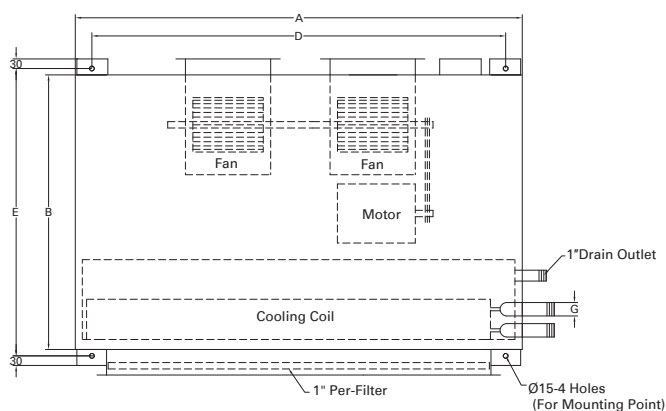
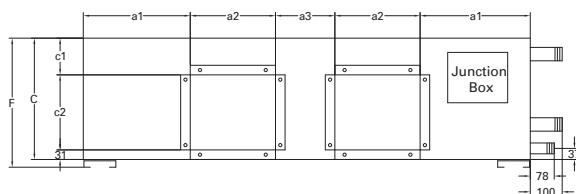
Model	A	B	C	D	E	F
030	1330	860	380	1230	900	400
040	1600	860	380	1500	900	400
050	1600	970	490	1500	1010	510
060	1910	970	490	1800	1010	510

Model	Inlet/Outlet Water Pipe Size G							
	Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
030	DN32	DN32	DN32	DN40	DN32	DN32	DN32	DN32
040	DN32	DN32	DN40	DN50	DN32	DN32	DN32	DN32
050	DN32	DN40	DN50	DN50	DN32	DN32	DN40	DN40
060	DN40	DN40	DN50	DN50	DN32	DN32	DN40	DN40

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C;
 "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	a4	c1	c2	c3	c4	c5
030	311	265	178	1130	116	233	314	330	110
040	446	265	178	1400	116	233	314	330	110
050	425	271	208	1400	165	294	424	434	115
060	580	271	208	1710	165	294	424	434	115

Remarks: Flange width 30mm.



Unit Dimensions (Single Skin Unit)

Option Unit-080,100,120,150

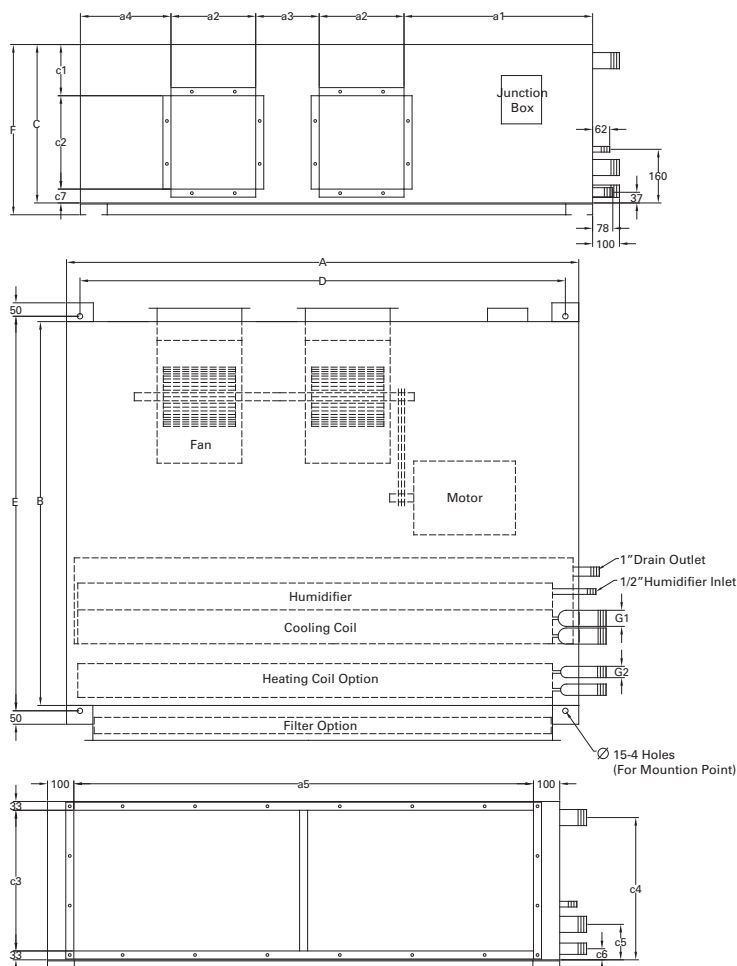
Model	A	B	C	D	E	F	G2	
							1Row	2 Row
080	1910	1600	590	1810	1640	630	DN32	DN40
100	2200	1600	590	2100	1640	630	DN32	DN40
120	2200	1600	685	2100	1640	725	DN32	DN40
150	2600	1600	685	2500	1640	725	DN32	DN40

Model	Inlet/Outlet Water Pipe Size G1							
	Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
080	DN50	DN50	DN50	DN65	DN50	DN50	DN50	DN50
100	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50
120	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50
150	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C;
 "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	a4	a5	c1	c2	c3	c4	c5	c6		c7
											1Row	2Row	
080	705	313	240	339	1710	192	346	524	530	130	62	52	52
100	850	313	240	484	2000	192	346	524	530	130	62	52	52
120	772	377	290	384	2000	217	408	619	625	130	58	48	60
150	972	377	290	584	2400	217	408	619	625	130	58	48	60

Remarks: Flange width 30mm.



Unit Dimensions (Single Skin Unit)

Basic Unit -080,100,120,150

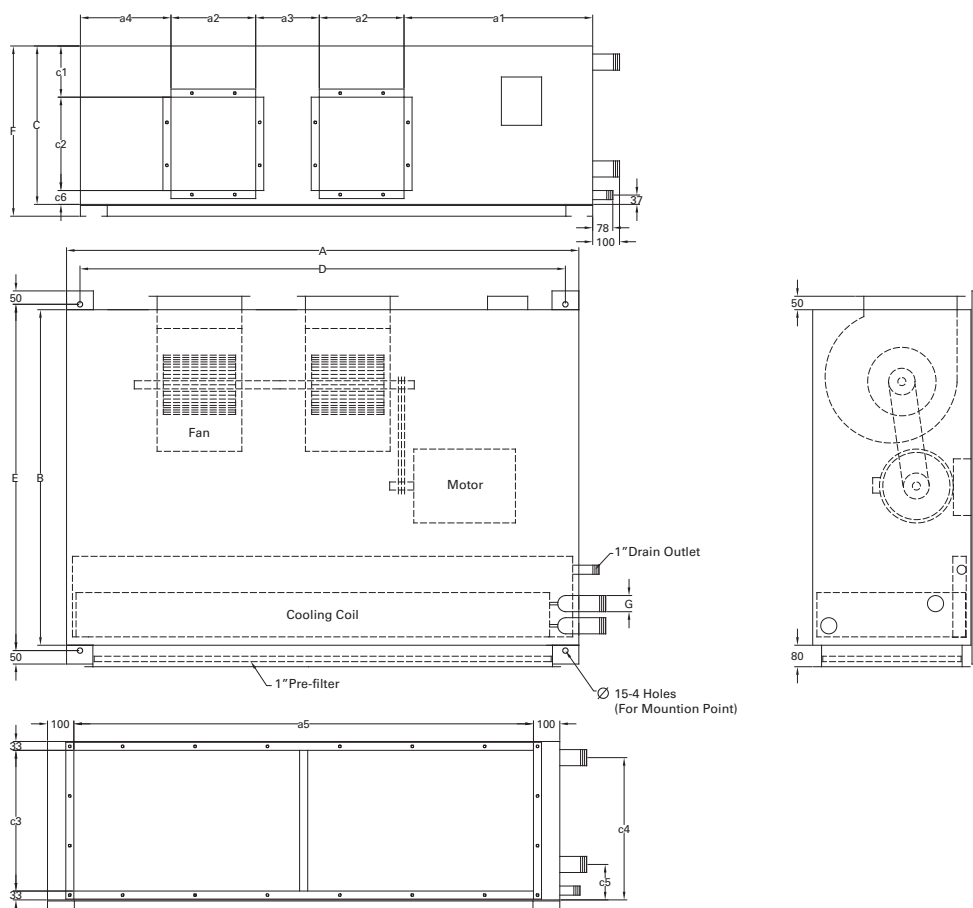
Model	A	B	C	D	E	F
080	1910	1250	590	1810	1290	630
100	2200	1250	590	2100	1290	630
120	2200	1250	685	2100	1290	725
150	2600	1250	685	2500	1290	725

Model	Inlet/Outlet Water Pipe Size G							
	Standard Return Air Condition		Standard Fresh Air Condition		Earthwise Return Air Condition		Earthwise Fresh Air Condition	
	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row	4 Row	6 Row
080	DN50	DN50	DN50	DN65	DN50	DN50	DN50	DN50
100	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50
120	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50
150	DN50	DN50	DN65	DN65	DN50	DN50	DN50	DN50

Remarks: Return air condition means entering air 27/19.5°C, Fresh air condition means entering air 35/28°C;
 "Standard Condition" means entering / leaving water temperature is 7/12°C, Earthwise Condition" means entering / leaving water temperature is 5/13°C.

Model	a1	a2	a3	a4	a5	c1	c2	c3	c4	c5	c6
080	705	313	240	339	1710	192	346	524	530	130	52
100	850	313	240	484	2000	192	346	524	530	130	52
120	772	377	290	384	2000	217	408	619	625	130	60
150	972	377	290	584	2400	217	408	619	625	130	60

Remarks: Flange width 30mm.

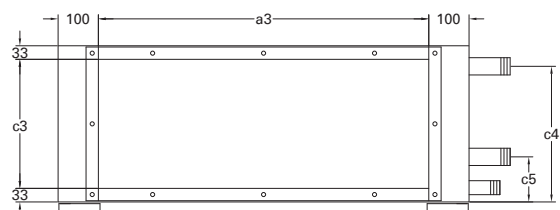
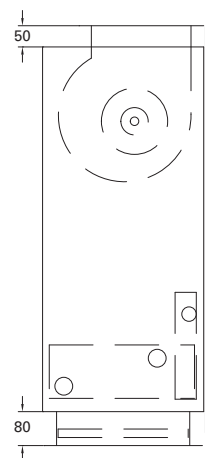
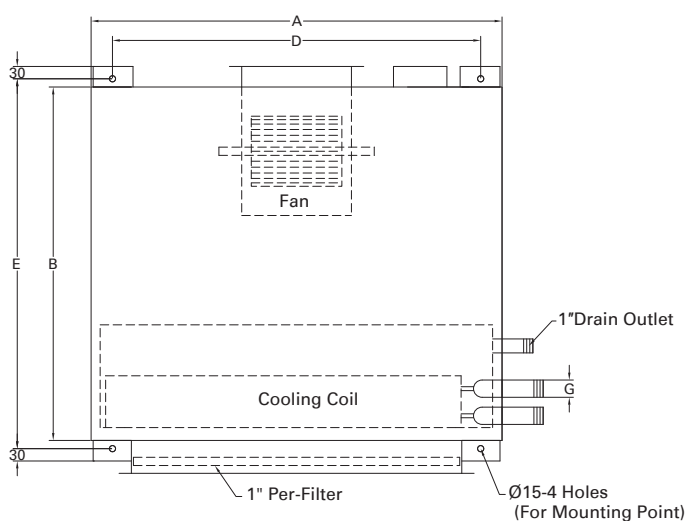
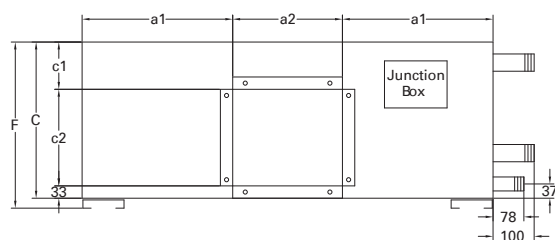


Unit Dimensions (Single Skin Unit)

Basic Unit - 020, 031, 041 (Direct Drive)

Model	A	B	C	D	E	F
020	970	860	380	870	900	400
031	1007	860	490	905	900	510
041	1264	860	490	1161	900	510

Model	LP&HP Fan	a1	a2	a3	c1	c2	c3	c4	c5
020	LP Fan	331	308	770	110	237	314	330	110
	HP Fan	315.5	339	770	110	237	314	330	110
031	LP Fan	349.5	308	809	216	229	421	443	106
	HP Fan	350.5	306	809	176	269	421	443	106
041	LP Fan	453	358	1064	176	269	421	443	106
	HP Fan	493	358	1064	176	269	421	443	106

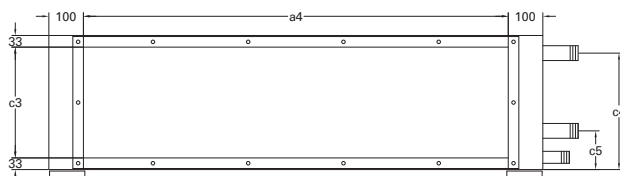
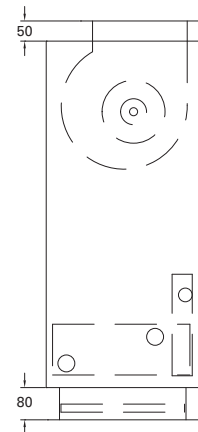
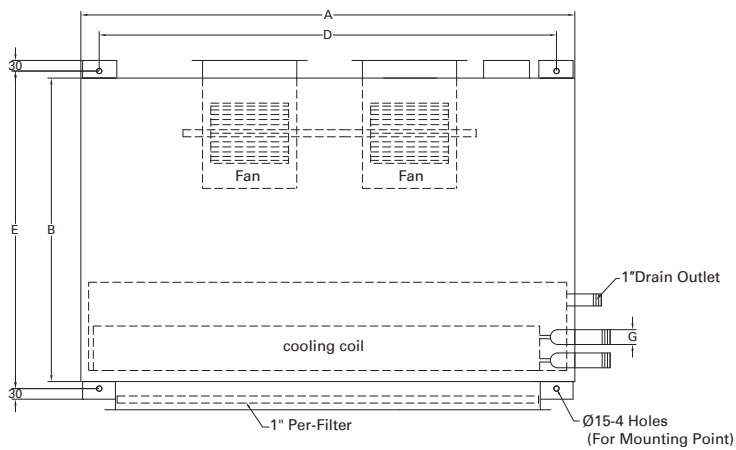
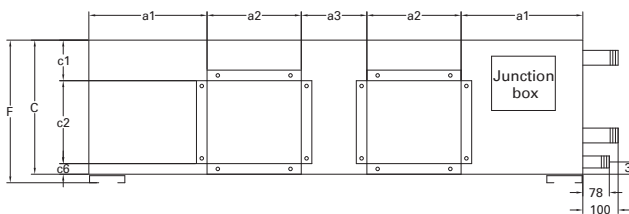


Unit Dimensions (Single Skin Unit)

Basic Unit - 030, 040, 050, 060 (Direct Drive)

Model	A	B	C	D	E	F
030	1330	860	380	1230	900	400
040	1600	860	380	1500	900	400
050	1600	970	490	1500	1010	510
060	1910	970	490	1800	1010	510

Model	LP&HP Fan	a1	a2	a3	a4	c1	c2	c3	c4	c5	c6
030	LP Fan	309	267	178	1130	112	235	314	330	110	33
	HP Fan	268	308	178	1130	110	237	314	330	110	33
040	LP Fan	403	308	178	1400	110	237	314	330	110	33
	HP Fan	372	339	178	1400	110	237	314	330	110	33
050	LP Fan	388	308	208	1400	216	229	424	434	115	45
	HP Fan	390	306	208	1400	176	269	424	434	115	45
060	LP Fan	543	308	208	1710	216	229	424	434	115	45
	HP Fan	545	306	208	1710	176	269	424	434	115	45

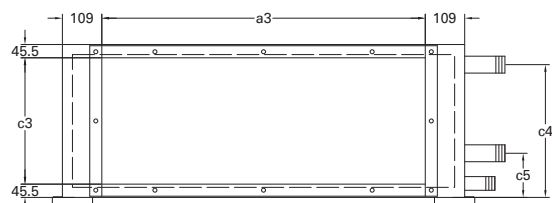
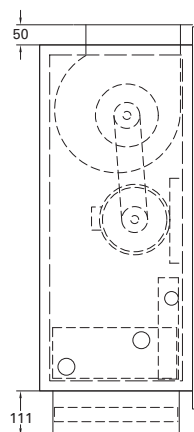
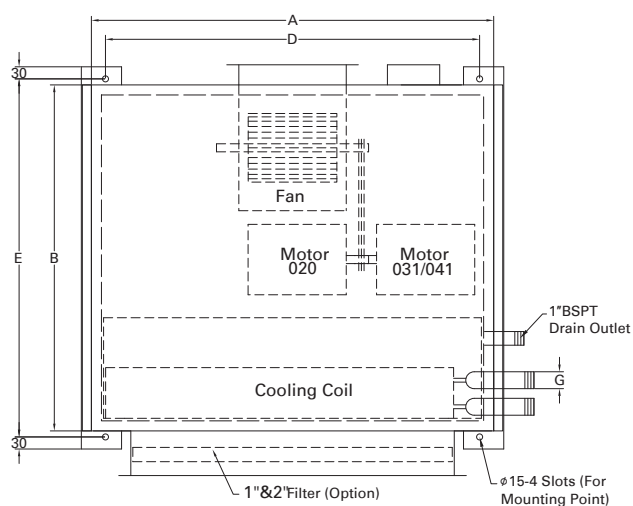
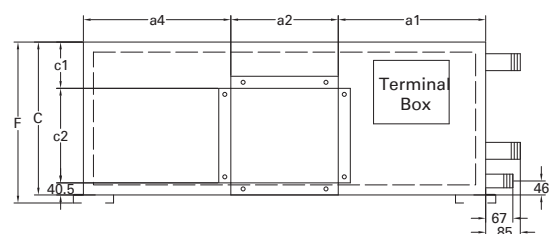


Unit Dimensions (Double Skin Unit)

Basic Unit - 020,031,041

Model	A	B	C	D	E	F
020	990	870	405	920	900	425
031	1025	870	515	955	900	535
041	1282	870	515	1212	900	535

Model	a1	a2	a3	a4	c1	c2	c3	c4	c5
020	362	265	772	362	132	233	314	340	120
031	468	271	807	286	180	294	424	452	115
041	506	271	1064	506	180	294	424	452	115

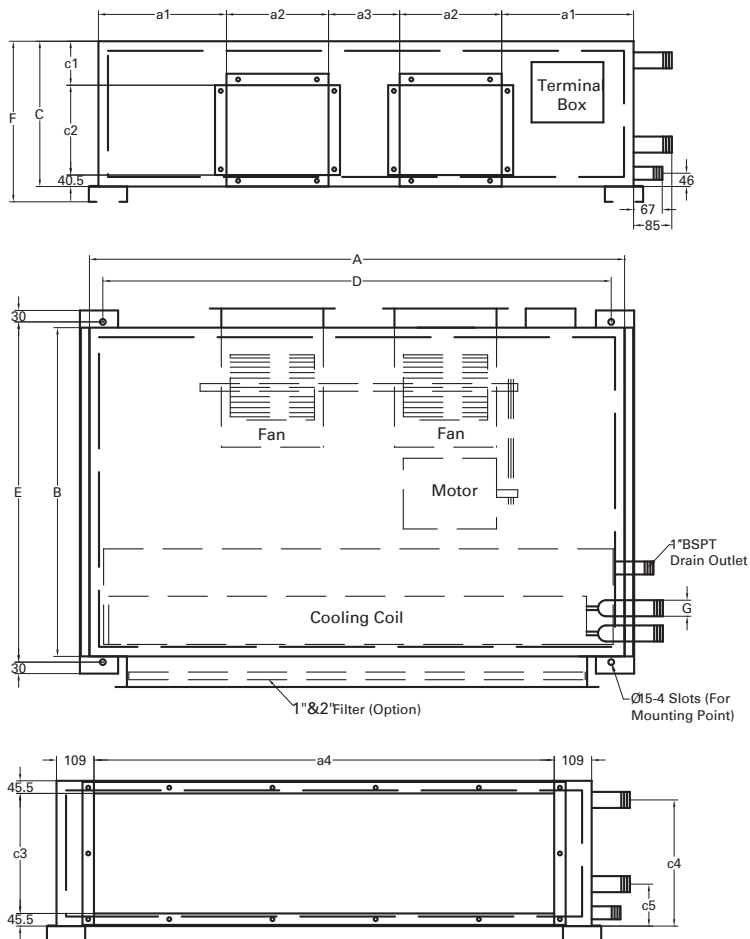


Unit Dimensions (Single Skin Unit)

Basic Unit - 030, 040, 050, 060

Model	A	B	C	D	E	F
030	1350	870	405	1280	900	425
040	1620	870	405	1580	900	425
050	1620	1000	515	1580	1030	535
060	1930	1000	515	1860	1030	535

Model	a1	a2	a3	a4	c1	c2	c3	c4	c5
030	321	265	178	1132	131	233	314	340	120
040	456	265	178	1402	131	233	314	340	120
050	435	271	208	1402	180	294	424	444	125
060	590	271	208	1712	180	294	424	444	125

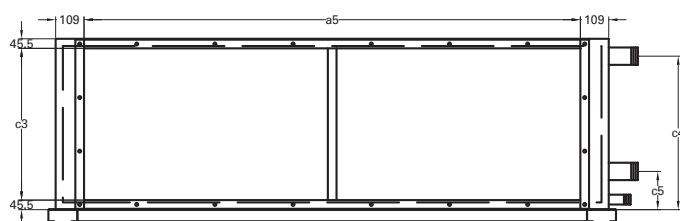
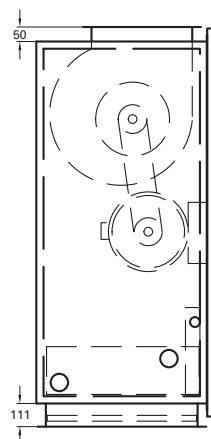
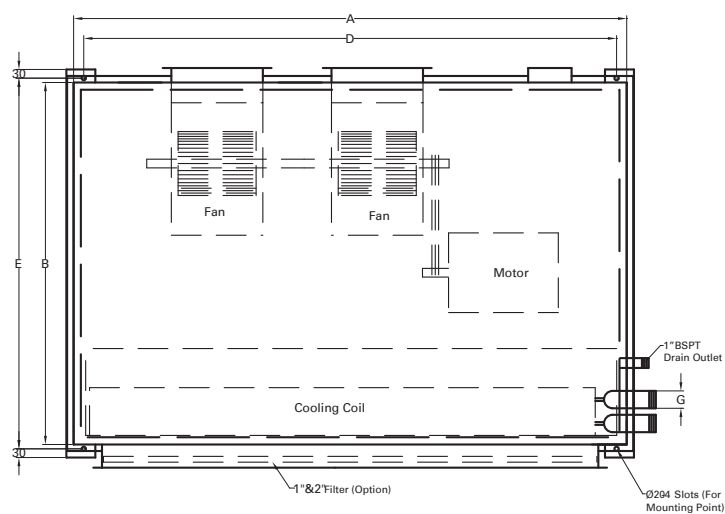
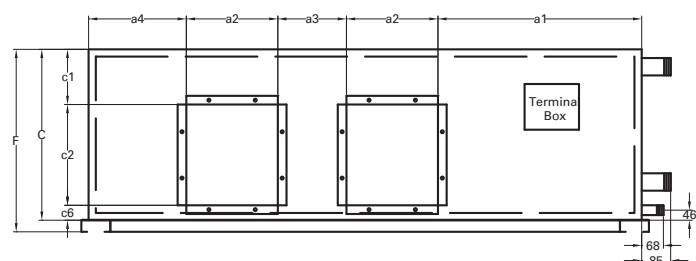


Unit Dimensions (Double Skin Unit)

Basic Unit -080,100,120,150

Model	A	B	C	D	E	F
080	1930	1260	615	1860	1290	655
100	2220	1260	615	2150	1290	655
120	2220	1260	710	2150	1290	750
150	2620	1260	710	2550	1290	750

Model	a1	a2	a3	a4	a5	c1	c2	c3	c4	c5	c6
080	716	314	239	339	1712	207	346	524	538	140	62
100	861	314	239	491	2002	207	346	524	538	140	62
120	783	377	298	391	2002	232	408	619	633	140	70
150	983	377	289	591	2402	232	408	619	633	140	70

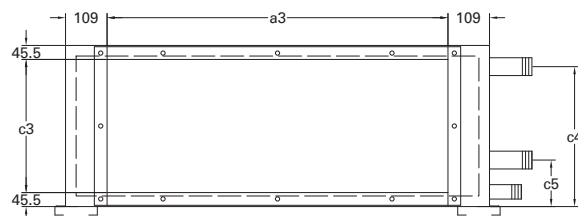
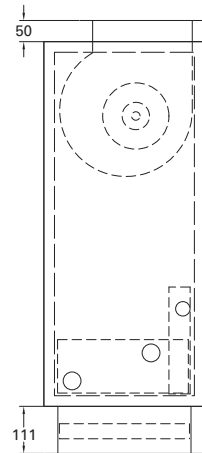
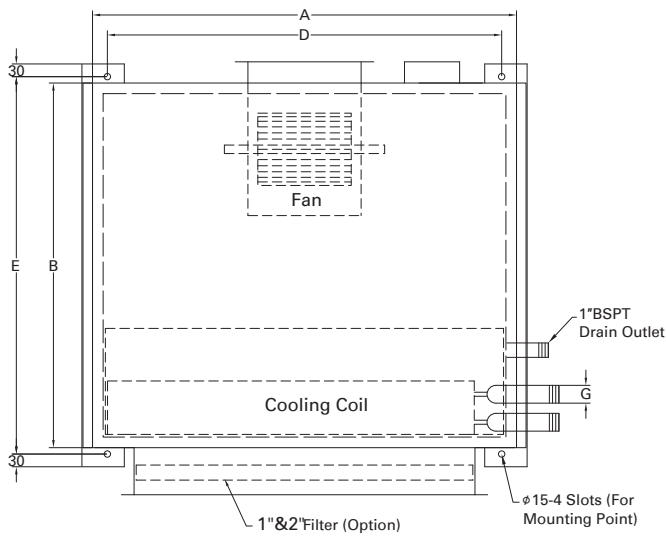
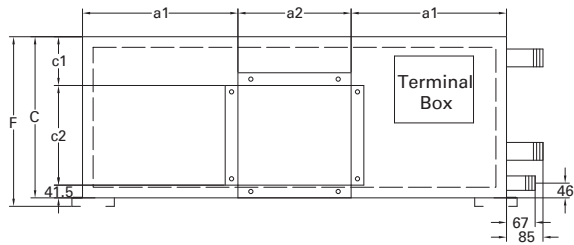


Unit Dimensions (Double Skin Unit)

Basic Unit - 020, 031, 041 (Direct Drive)

Model	A	B	C	D	E	F
020	990	870	405	920	900	445
031	1025	870	515	955	900	555
041	1282	870	515	1212	900	555

Model	LP&HP Fan	a1	a2	a3	c1	c2	c3	c4	c5
020	LP Fan	341	308	772	126.5	237	314	340	120
	HP Fan	325.5	339	772	126.5	237	314	340	120
031	LP Fan	358.5	308	807	231	229	424	452	115
	HP Fan	359.5	306	807	191	269	424	452	115
041	LP Fan	462	358	1064	191	269	424	452	115
	HP Fan	462	358	1064	191	269	424	452	115

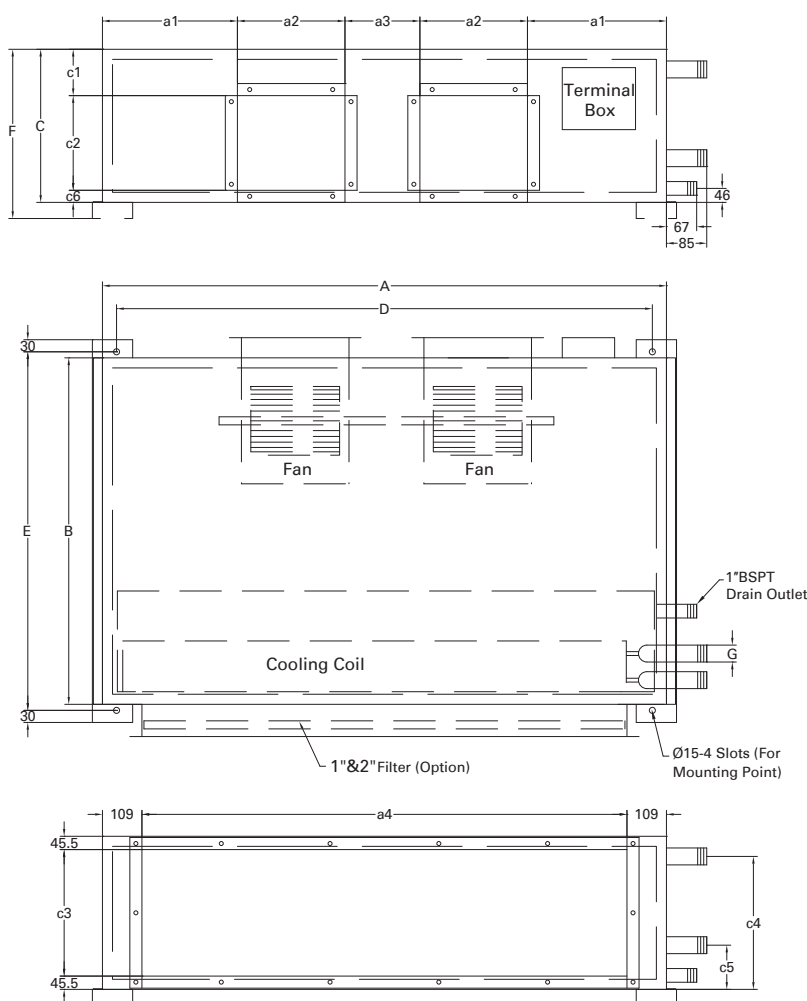


Unit Dimensions (Double Skin Unit)

Basic Unit - 030, 040, 050, 060 (Direct Drive)

Model	A	B	C	D	E	F
030	1350	870	405	1280	900	445
040	1620	870	405	1580	900	445
050	1620	1000	515	1580	1030	555
060	1930	1000	515	1860	1030	555

Model	LP&HP Fan	a1	a2	a3	a4	c1	c2	c3	c4	c5	c6
030	LP Fan	319	267	178	1132	128.5	235	314	340	120	41.5
	HP Fan	278	308	178	1132	126.5	235	314	340	120	41.5
040	LP Fan	413	308	178	1402	126.5	235	314	340	120	41.5
	HP Fan	382	339	178	1402	126.5	235	314	340	120	41.5
050	LP Fan	398	308	208	1402	232.5	229	424	444	125	53.5
	HP Fan	400	306	208	1402	192.5	229	424	444	125	53.5
060	LP Fan	553	308	208	1712	232.5	229	424	444	125	53.5
	HP Fan	553	306	208	1712	192.5	229	424	444	125	53.5



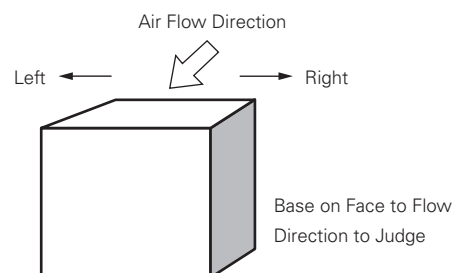
Model Number Description

$\frac{L}{1}$	$\frac{W}{2}$	$\frac{H}{3}$	$\frac{A}{4}$	$\frac{0}{5}$	$\frac{8}{6}$	$\frac{0}{7}$	$\frac{1}{8}$	$\frac{0}{9}$	$\frac{4}{10}$	$\frac{0}{11}$	$\frac{L}{12}$	$\frac{2}{13}$	$\frac{0}{14}$	$\frac{G}{15}$	$\frac{B}{16}$	$\frac{0}{17}$	$\frac{1}{18}$	$\frac{2}{19}$	$\frac{J}{20}$
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Digit 1,2,3,4	Product Name LWHA Marvel
Digit 5,6,7	Unit Size 020, 030, 031, 040, 041, 050, 060 080, 100, 120, 150 (11 sizes)
Digit 8	Airflow Code (Please refer to page 12)
Digit 9	ESP 0 = 0 Pa (Only for Jet unit)
Digit 10	Cooling Option 4 = 4 Row Cooling Coil 6 = 6 Row Cooling Coil
Digit 11	Heating Option 0 = No Heating Option 1 = 1 Row Heating Coil 2 = 2 Row Heating Coil E = Electric Heating Option
Digit 12	Connection Side L = Left Hand R = Right Hand
Digit 13	Filter Option 0 = Nylon Filter 1 = 1" Washable Filter 2 = 2" Washable Filter 3 = Nylon + Plug-in PCO 4 = 1" Washable Filter + Plug-in PCO 5 = 2" Washable Filter + Plug-in PCO A = Aluminum Filter B = Nylon Filter + 4" Secondary Filter C = 1" Washable Filter + 4" Secondary Filter D = Aluminum Filter + 4" Secondary Filter E = Aluminum Filter + Plug-in PCO F = Nylon Filter + 4" Secondary Filter + Plug-in PCO G = 1" Washable Filter + 4" Secondary Filter + Plug-in PCO H = Aluminum Filter + 4" Secondary Filter + Plug-in PCO
Digit 14	Humidifier Option 0 = None 4 = 40% Efficiency Evaporative Humidifier 6 = 60% Efficiency Evaporative Humidifier
Digit 15	Drain Pan G = Galvanized Steel S = Stainless Steel

Digit 16	Motor L = IE2 Motor (3P/380V/50Hz) R = IE2 Motor (3P/400V/50Hz) S = IE2 Motor (3P/415V/50Hz) V = IE2 Motor (3P/380V/60Hz) B = IE3 Motor (3P/380V/50Hz) C = IE3 Motor (3P/400V/50Hz) D = IE3 Motor (3P/415V/50Hz) X = IE3 Motor (3P/380V/60Hz) W = Direct drive (3P/380V/50Hz)
Digit 17	Application 0 = Std. return air condition 1 = Std. fresh air condition 2 = Earthwise return air condition 3 = Earthwise fresh air condition
Digit 18	Design Code 1 = Default number
Digit 19	Country Code 1 = HongKong 2 = AP Others 3 = MAIR 4 = LAR
Digit 20	Unit Type J = Basic Jet Unit, Double Skin, Painted Steel

Note: * Basic unit configuration:
Double Skin: Filter (Digit 13: 0,1,2,A,3,4,5,E) + Cooling Coil + Fan
** Only basic unit for double skin
*** The airflow code 3 of 020/030/150 model can not be selected.



Product Features

LWHA-J ceiling jet air handling unit is a high-quality air-side product of central air conditioning system.

It has many advantages, such as beautiful appearance, solid casing structure, excellent thermal insulation performance, long air supply distance, easy installation and maintenance, etc.

Especially suitable for the occasions where the spherical nozzle is used for long-distance direct air supply in large space, such as airports, railways, exhibition halls, indoor stadium, factories, etc.

Product Features

Quality Unit

Robust casing construction with 25mm PU insulation ensures reliable unit operation and prevents casing condensation.

Beautiful Appearance

The panel is painted, with good anti-corrosion performance and beautiful appearance, which is especially suitable for the air conditioning project of the unit surface installation.

Cooling Coil with Hydrophilic Coated Fin

Coils with hydrophilic coated fin feature superior heat transfer performance, making longer life span for coils and preventing moisture carry over.

Far air supply

The maximum air supply distance of the unit can reach 30m, which can better meet the demand of long-distance air supply.

Space Saving

Low height and light weight compact casing reduce space requirement.

Ease of Installation

Suspension brackets and electrical terminal box are provided as standard options to simplify installation work and reduce project cost.

Ease of Servicing

Filter are removable from both sides, which provides easier filter serving and maintenance work for the unit.

General Specification

Model			020	030	031	040	041	050	060	080	100	120	150
Nominal Airflow		CMH	2000	3000	3000	4000	4000	5000	6500	8000	9500	11000	14000
Drive Option			Belt										
Cooling Capacity (Standard Return air condition)	4 Row	kW	11.7	17.1	17.2	22.9	23.4	29.3	34.8	46.4	59.7	71.4	90.7
	6 Row	kW	14.8	21.8	22	28	28.3	36.3	43.5	60	75.1	89.8	113.1
Cooling Capacity (Standard Fresh air condition)	4 Row	kW	26.7	39.7	37.1	53.2	50.5	68.1	76.7	99	127.1	157.6	186.1
	6 Row	kW	33.3	47.7	47.4	64.4	64.7	81.9	100.8	128.5	161	192.6	252.8
Heating Capacity (Standard Return air condition)	4 Row	kW	18.8	27.9	27.3	36.6	35.9	46.7	56	77.5	96.8	115.4	144
	6 Row	kW	22.5	33.4	32.8	43.6	42.8	55.4	66.6	91.7	114.3	136.4	168.2
Heating Capacity (Standard Fresh air condition)	4 Row	kW	26.6	39.7	39.9	52.4	52.2	66.6	72.7	112.9	139.6	167	207.1
	6 Row	kW	31.2	49.1	46.7	61.2	61.2	77.4	93.6	129.4	160.5	192.3	238.5
Nozzle	Type		Aluminum alloy spherical nozzle										
	Size		250	315	315	315	400	400	400	400	450	500	500
	Qty.		2	2	2	3	2	2	3	3	3	3	3
	Range	m	~15	~14	~14	~12	~16	~21	~18	~21	~25	~25	~30
Unit Dimensions	Length	mm	1401	1401	1401	1401	1401	1531	1581	1841	1841	1841	1841
	Width	mm	990	1350	1025	1620	1282	1620	1930	1930	2220	2220	2620
	Height	mm	445	445	555	445	555	555	555	655	655	750	750
Unit Maximum Weight	4 Row	kg	117	155	142	175	160	205	234	332	363	398	460
	6 Row	kg	122	162	149	183	166	216	246	351	385	424	492
Filter Quantity			2	3	2	3	2	3	3	3	4	4	4
Filter Size (H x W)		mm	308X385	308X376.5	402X403.5	308X466.5	420X530	418X466.5	418X570	518X570	518X500	613X500	613X600

Remarks:

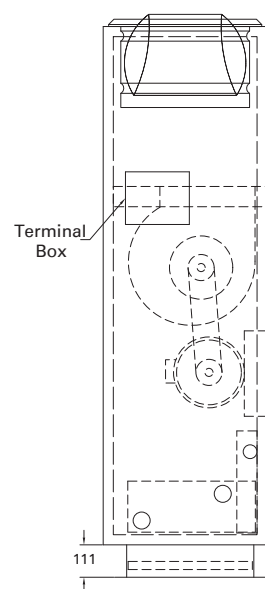
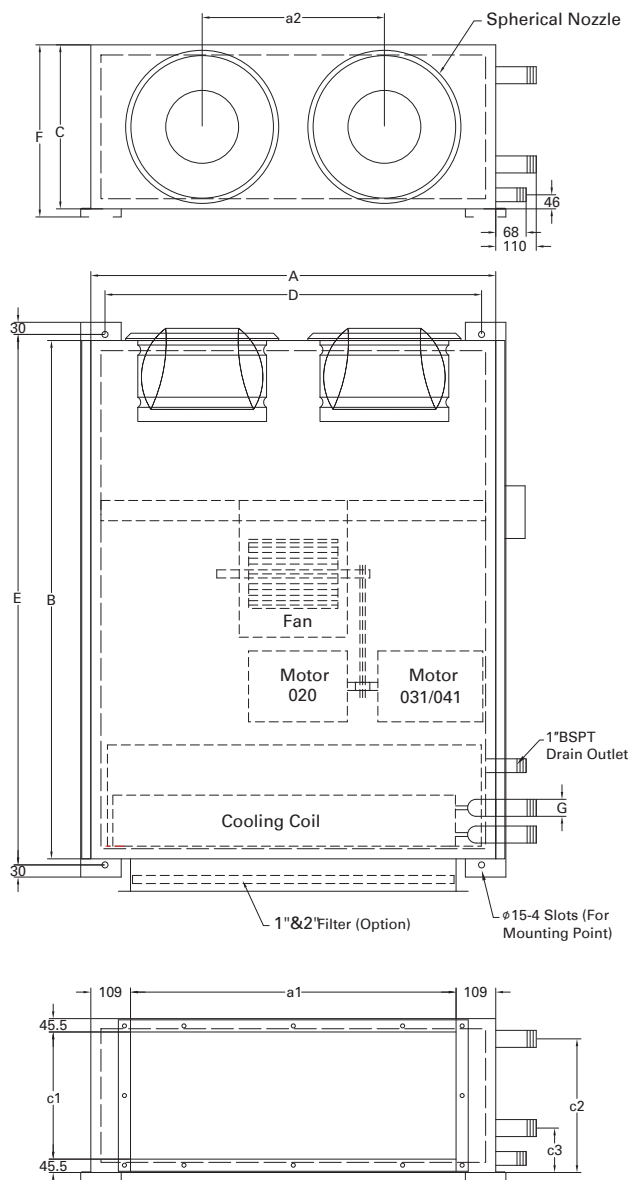
- Cooling Entering Air Temperature: Return Air Condition (DB/WB):27/19.5°C, Fresh Air Condition (DB/WB):35/28°C.
- Cooling Entering/Leaving Water Temperature: Standard Condition: 7/12°C.
- Heating Entering Air Temperature: Return Air Condition (DB/WB):21°C, Fresh Air Condition (DB/WB):7°C.
- Heating Entering Water Temperature: 60°C, water flow is the same as that of chilled water.

Unit Dimensions (Double Skin Unit)

Basic Unit - 020, 031, 041 (Direct Drive)

Model	A	B	C	D	E	F
020	990	1290	405	920	1320	425
031	1025	1290	515	955	1320	535
041	1282	1290	515	1212	1320	535

Model	a1	a2	c1	c2	c3
020	772	400	314	340	120
031	807	450	424	452	115
041	1064	550	424	452	115

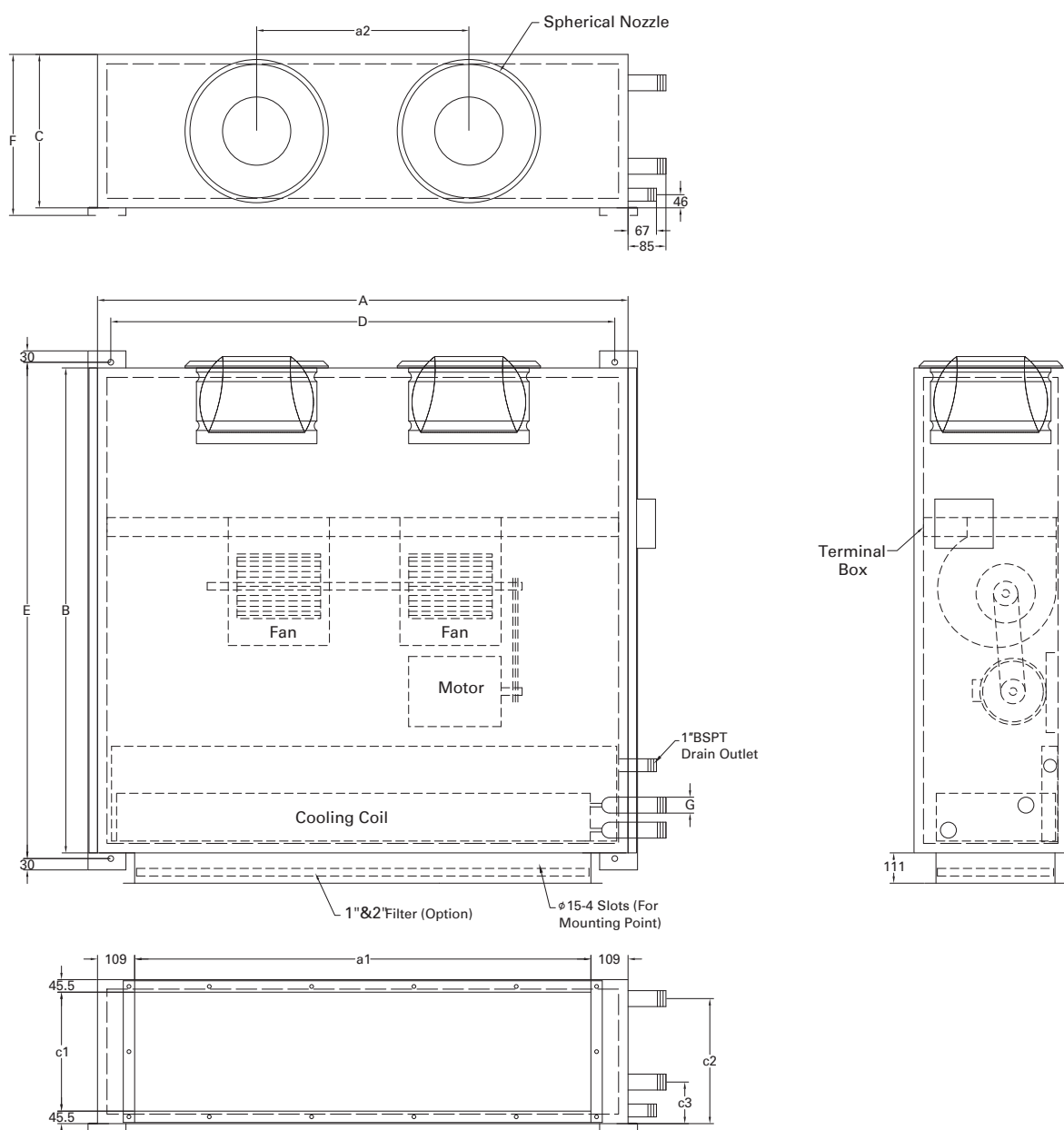


Unit Dimensions (Double Skin Unit)

Basic Unit - 030, 050 (Direct Drive)

Model	A	B	C	D	E	F
030	1350	1290	405	1280	1320	425
050	1620	1420	515	1580	1470	535

Model	a1	a2	c1	c2	c3
030	1132	500	314	340	120
050	1402	650	424	444	125

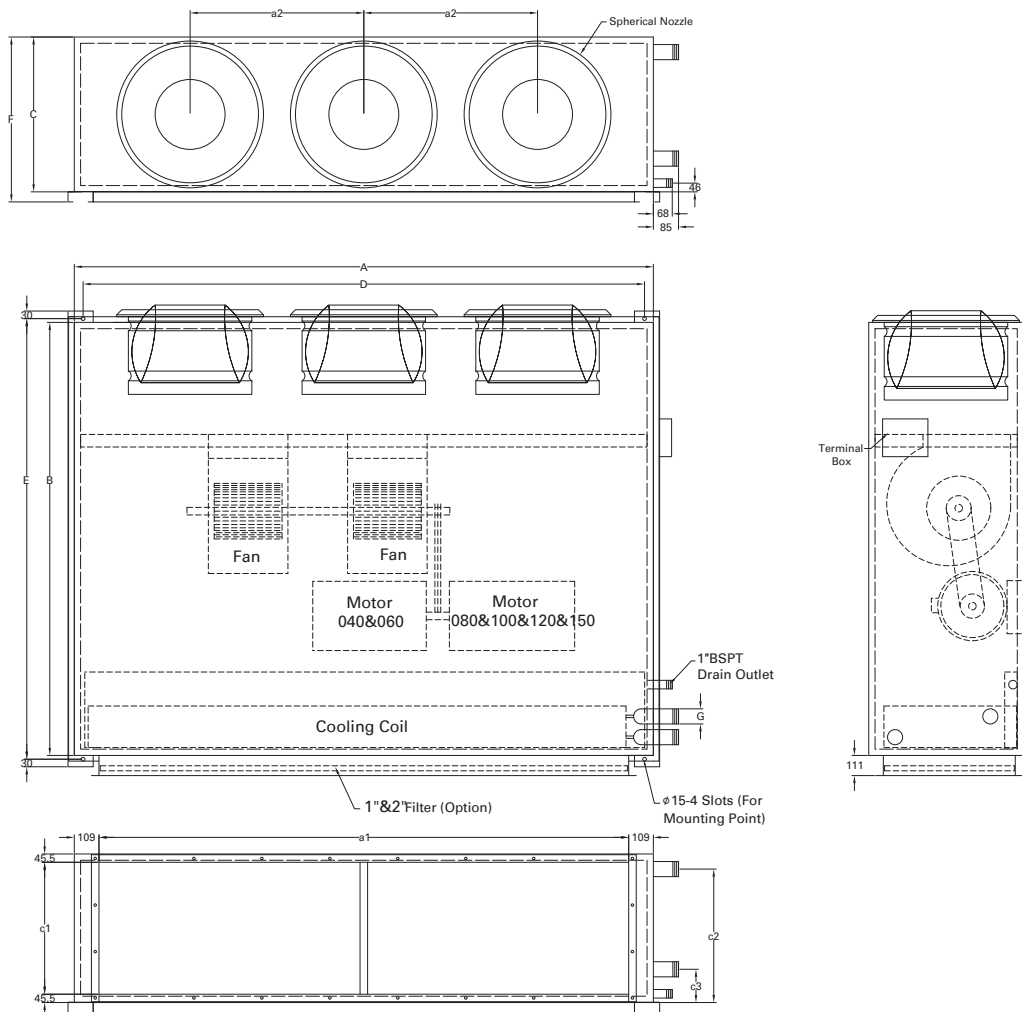


Unit Dimensions (Double Skin Unit)

Basic Unit - 040, 060, 080, 100, 120, 150 (Direct Drive)

Model	A	B	C	D	E	F	Spherical Nozzle	
							Size	Inner Dia
040	1620	1290	405	1580	1320	425	315	390
060	1930	1470	515	1860	1500	535	400	495
080	1930	1730	615	1860	1760	655	400	495
100	2220	1730	615	2150	1760	655	450	559
120	2220	1730	710	2150	1760	750	500	622
150	2620	1730	710	2150	1760	750	500	622

Model	a1	a2	c1	c2	c3
040	1402	450	314	340	120
060	1712	540	424	444	125
080	1712	540	524	538	140
100	2002	600	524	538	140
120	2002	650	619	633	140
150	2402	650	619	633	140



Recommendations for unit installation

1.Basic Requirements:

Before installation or maintenance of the unit, the cut-off switch should be locked in the power-off state, so as to avoid damage caused by electric shock or running parts;
The type of power supply must be consistent with the electrical parameters on the nameplate;
If external accessories are to be installed outside the unit, make sure that additional space is reserved;
All air ducts must be properly insulated to prevent the loss of cold and heat;
If the unit needs to be hoisted, the hoisting device should be used to isolate the unit from the building, usually equipped with shock absorbing spring or rubber.

2.Connection of Drain Pipe:

To ensure a smooth discharge of condensate water, the drain pipe of cooling coil portion should be connected with a water storage curve in a straight line (see figure 1).

3.Design of Air Duct:

It must be in line with the direction of fan rotation. Duct elbows and transitions must be designed by professional designers to reduce the loss of air friction (see figure 2).

4.Connection of Air Duct:

The air duct connection must comply with the national fire prevention code and HVAC code. Flexible connections should be used to reduce noise and vibration with the supply and return ducts, usually no less than 75mm (see figure 3).

5.Coil Under Pressure

The maximum pressure of cooling coil and heating coil shall not exceed 1.6 MPa.

6.Fresh Air Unit

When the fresh air temperature is lower than 0°C, the preheating coil must be opened before start-up or other corresponding measures must be taken to prevent the coil from freezing and cracking. When the coil is placed below freezing temperature during shutdown, the internal water should be drained and all residual water should be blown off. If cannot do so, antifreeze should be added to the coil.

7.Installation Space

Sufficient space should be reserved for routine maintenance during installation.

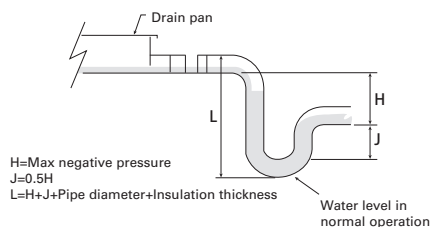


Figure1

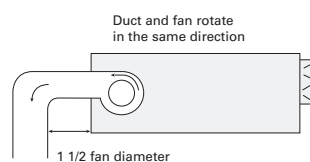


Figure2

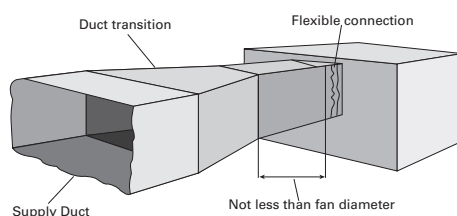


Figure3

Trane - by Trane Technologies (NYSE:TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

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