DC INVERTER U-MATCH AIR CONDITIONERS

(GC201604)

BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS

TECHNICAL SALES GUIDE

CAPACITY RANGE 17,100~47,700Btu/h)

SUPER HIGH AMBIENT OPERATION TO 115°F

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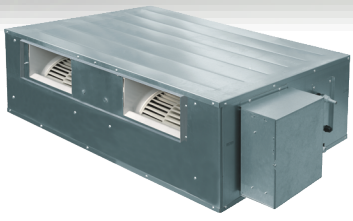


R410A

GREE ELECTRIC APPLIANCES INC.OF ZHUHAI

CONTENTS

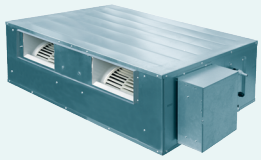
1 MODELS LIST

1.1 Outdoor Unit

Model	Ref.	Power supply (V, Ph, Hz)	Appearance
UMAT18HP230V1BO	R410A	208/230V~ 60Hz	
UMAT24HP230V1BO	R410A	208/230V~ 60Hz	
UMAT30HP230V1BO	R410A	208/230V~ 60Hz	
UMAT36HP230V1BO	R410A	208/230V~ 60Hz	
UMAT42HP230V1BO	R410A	208/230V~ 60Hz	
UMAT48HP230V1BO	R410A	208/230V~ 60Hz	

Note:1 Ton =12000Btu/h = 3.517kW

1.2 Indoor Unit

Type	Model Name	Nominal Capacity Cooling/Heating Btu/h	Power supply (V, Ph, Hz)	Appearance
High Static Slim Duct Type	UMAT18HP230V1BD	17000/19000	208/230V~60Hz	
	UMAT24HP230V1BD	23800/27200	208/230V~60Hz	
	UMAT30HP230V1BD	28300/31300	208/230V~60Hz	
	UMAT36HP230V1BD	34100/40900	208/230V~60Hz	
	UMAT42HP230V1BD	40900/47000	208/230V~60Hz	
	UMAT48HP230V1BD	47700/54500	208/230V~60Hz	

Note:1 Ton =12000Btu/h

2 NOMENCLATURE

2.1 Outdoor unit

U M A T	18	HP	230V	1	B	O
1	2	3	4	5	6	7

NO.	Description	Options
1	U-MATCH SERIES	
2	Unit Size Nominal Cooling Capacity	18=18000 BTU 24= 24000 BTU 30= 36000 BTU 36= 36000 BTU 42= 42000 BTU 48= 48000 BTU
3	Product Type	HP=Heat Pump
4	System / Compressor Power Supply	208 / 230 V -1-60
5	Style/Color Designation	1 = White
6	Revision	A= First Generation B = Second Generation
7	Unit Configuration	O= Outdoor Unit

2.2 Indoor unit

U M A T	18	HP	230V	1	B	D
1	2	3	4	5	6	7

NO.	Description	Options
1	U-MATCH SERIES	
2	Nominal Cooling Capacity	18=18000 BTU 24= 24000 BTU 30= 36000 BTU 36= 36000 BTU 42= 42000 BTU 48= 48000 BTU
3	Product Type	HP=Heat Pump without Aux Electric Heaters
4	System Power Supply	208 / 230 V -1-60
5	Style/Color Designation	1 = White
6	Revision	A= First Generation B = Second Generation
7	Unit Configuration	D=Duct Type C=Cassette Type F= Floor-Ceiling Type

3 FUNCTION

3.1 Description

Gree R410A DC Inverter U-Match Series Air Conditioners have combined the extraordinary comfort of the central air conditioners with the convenient installation and facility of the mini split air conditioners. They are equipped with a condenser coil constructed of hydrophilic aluminum sheet and with an inner groove copper pipe, low-noise compressor with various protections on the high/low pressure sides, high discharge temperature, overload, and a sensor malfunction alarm.

The casing of this unit is made of pre-painted steel, capable of resisting corrosion and rust and ensuring minimal fading when exposed to sunlight.

Gree R410A DC Inverter U-Match Series Air Conditioning Units can offer the perfect combination of superior product quality, high operating efficiency and cost efficiency. Capacities are rated according to ARI 210/240-2008 ranges from 18K Btu/h to 48K Btu/h, to meet varying customer requirements. These units are ETL certificate rated and were manufactured under strictest controls with fully conforming to ISO 9001:2000 and ISO 14001 standards. All units are factory tested prior to shipment to assure proper operation and fully functional controls.

Gree R410A DC Inverter U-Match Series Air Conditioning Units are designed to use in small supermarkets, chain stores, hotels, restaurants, offices and meeting rooms etc. ideal for small commercial and industrial applications. Its indoor units come in cassette, duct, and floor-ceiling models, providing extremely flexible installation. These units are capable of cooling when the outdoor ambient temperature drops to 0°F (-18°C (0°F), ideal for locations that require cooling in winter. Precise engineering design of every component part, together with comprehensive process and unit functional testing, assures whole system reliability.
Multiple system sensor protection capabilities guarantee utmost system safety for the compressor and other critical parts under the harshest of working conditions, preventing irreparable system damage.

3.2 Features-Outdoor Units

◆ Unit protections

- High reliability
  Precise engineering design of every component part, together with comprehensive process and unit functional testing, assures whole system reliability.
- Long-term durability & reliability
  Multiple system sensors guarantee utmost system safety for the compressor and other critical parts under the harshest of working conditions, preventing irreparable system damage.
- High/low pressure protection
  When suction pressure is too low or discharge pressure is too high, the compressor will stop and the unit display will indicate a malfunction.
- Overload protection
  The compressor has its own overheat protection. Once the temperature of compressor is higher than allowable level, the compressor will stop and restart only when temperatures recover.
- Discharge high temperature protection
  Once the discharge temperature of compressor is higher than allowable value, compressor will stop and he unit display will indicate a malfunction.
- Anti-high temperature protection
  Once the heat exchanger temperature of indoor unit is too high ,the outdoor fan motor will stop.
- Sensor malfunction alarm
  in the event of a sensor short or shutdown, the unit display will indicate a malfunction.

- Anti-freezing protection
  When the system senses temperature of the evaporator is too low, the compressor will stop, protecting the entire system.

- Over-current protection
  When the system detects an abnormal compressor running current, the compressor will stop, protecting the entire system.

- Communication malfunction

  When abnormal system communication is detected, the system will shut down, protecting the entire syster.

  Special protections have been taken for the control of the inverter unit to prevent it from being damaged, including:

◆ Unit protections

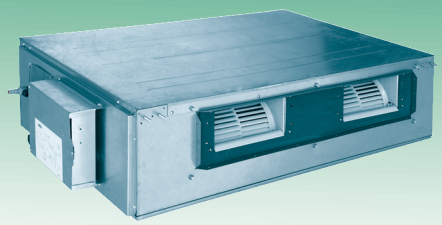
- PFC or IPM module protection
  When the PFC or IPM module works abnormally, the unit will stop to protect the whole system.
- DC busbar voltage protection
  When the voltage of the DC bus comes abnormal, the unit will stop to protect the compressor.
- PFC or IPM temperature too high protection
  When the temperature of the PFC or the IPM module is too high, the unit will stop to protect the whole system.
- Anti-high temperature protection
  Once the heat exchanger temperature of indoor unit is too high, the outdoor fan motor will stop.
- Compressor frequency control
  The running frequency of the compressor is minimized to realize the lowest energy consumption possible.

- Change rate of the compressor
  The frequency rate varies with the change of the load.
- 4-way valve control
  For heat pump units, the 4-way valve allows the unit ito operater in either the heating or cooling mode.
- Automatic defrosting
  When the heat pump unit is in the heating mode, automatic defrosting will occur when there is a frosting condition on the outdoor unit, protecting the entire system.

- Low-temperature cooling
  These systems are capable of reliable operation down to 0°F (-18°C) ambient temperature by the running speed of the outdoor unit's fan.
- Deicing
  Deicing: electric heating tape on the chassis will engage to prevent chassis icing which would affect the performance of the unit.

3.3 Features-Indoor Units

(1) Duct Type

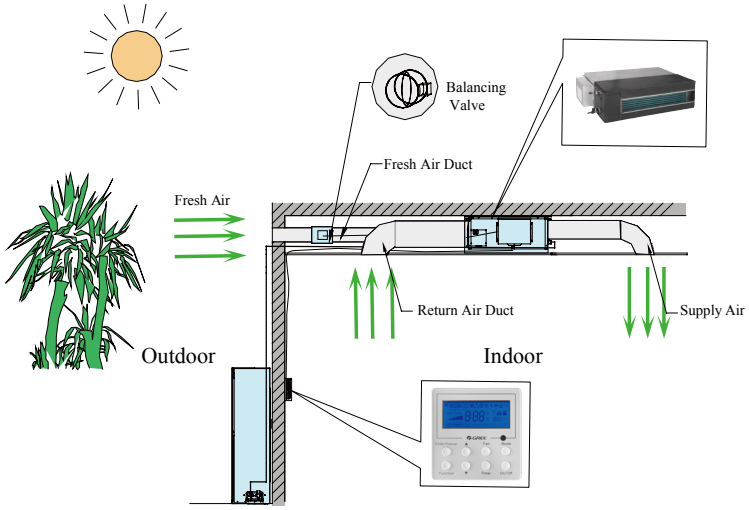


Airflow Patterns for Extra Comfort :

Connecting multiple supply-air outlets to the slim duct, will “even out” the temperature and humidity of the whole room, bringing in outside fresh improves overall air quality. All units are provided with filters that they are easily accessible from the rear of the unit.

Flexible Installation:

Supply or return air configuration versatility [rear or bottom] and condensation drainage from either side, add to the flexibility of this unit.



Easy Maintenance:

Evaporator coils, constructed of quality inner groove copper tube and hydrophilic aluminum sheet, are engineered and configured to make maintenance convenient and easy.

Versatile Functions:

- Multi fan speed control
- Comfortable cool/energy saving
- Vacation mode
- Low temperature humidity control
- Long-distance monitoring
- Double wired controller control
- Light board control

4 PRODUCT DATA

4.1 Product Data at Rated Condition

Model	Indoor unit		UMAT18HP230V1BD	UMAT24HP230V1BD
	Outdoor unit		UMAT18HP230V1BO	UMAT24HP230V1BO
Capacity	Cooling Capacity	kW	5.0（1.60-5.80）	7.0（2.40-8.20）
	Heating Capacity	kW	5.6（1.40-6.80）	8.0（2.40-9.00）
Power Input	Cooling	kW	1.55（0.55-1.75）	2.35（0.85-2.50）
	Heating	kW	1.65（0.50-1.90）	2.40（0.80-2.75）
SEER / HSPF		(Btu/h)/W	16.00/9.00	16.00/9.00
Indoor Unit			UMAT18HP230V1BD	UMAT24HP230V1BD
Power Supply		-	208/230V~60Hz	
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	Direct	Direct
	Motor Output	kW	0.06×1	0.15×1
	Air Flow	m^3/h(CFM)	1000(585)	1400(820)
	Rated Ext. Static Pressure	Pa(InWc)	50(0.2)	50(0.2)
	Ext. Static Pressure Range	Pa(InWc)	0-100(0-0.4)	0-200(0-0.8)
Sound Pressure Level(H/M/L)		dB(A)	40/39/36/28	47/46/44/40
Air Filter		-	PP	PP
Drain Piping		mm(inch)	Φ30×1.5 (Φ1.18×0.06)	Φ20×1.2 (Φ0.79×0.05)
Outline Dimensions (W×H×D)		mm(inch)	1280×270×560 (50.4×10.6×22.0)	1225×290×775 (48.3×11.4×30.5)
Net Weight		kg(lb)	34.0(75.0)	47.0(103.6)
Outdoor Unit			UMAT18HP230V1BO	UMAT24HP230V1BO
Power Supply		-	208/230V~60Hz	
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil
Compressor	Type	-	Rotary	Rotary
	Power Input	W	1400	2550
Refrigerant	Control	-	Electronic Expansion Valve	Electronic Expansion Valve
	Charge	kg(oz)	1.40(49.39)	2.20(77.62)
Outline Dimensions (W×H×D)		mm(inch)	955×700×395 (37.6×27.6×15.6)	980×790×425 (38.6×31.1×16.8)
Net Weight		kg(lb)	48.0(105.8)	69.0(152.1)
Piping Connections	Liquid	Inch	Φ1/4	Φ3/8
	Gas	Inch	Φ1/2	Φ5/8
	Max. Length	m(ft)	50(164)	50(164)
	Max. Height	m(ft)	15(49.2)	15(49.2)

Model	Indoor unit			UMAT30HP230V1BD		UMAT36HP230V1BD
	Outdoor unit			UMAT30HP230V1BO		UMAT36HP230V1BO
Capacity	Cooling Capacity	kW		8.30(2.60-9.20)		10.0（3.20-11.50）
	Heating Capacity	kW		9.20(2.40-9.90)		12.0（2.90-14.50）
Power Input	Cooling	kW		3.30(0.85-3.70)		3.60（0.70-4.50）
	Heating	kW		3.10(0.80-3.50)		3.40（0.70-4.60）
SEER / HSPF		(Btu/h)/W		16.00/9.00		16.00/9.00
Indoor Unit				GFH30D3F3I		UMAT36HP230V1BD
Power Supply		-		208/230V~60Hz		
Heat Exchange		-		Cross Fin Coil		Cross Fin Coil
Fan	Drive	-		Direct		Direct
	Motor Output	kW		0.15×1		0.25×1
	Air Flow	m^3/h(CFM)		1400(820)		2000(1175)
	Rated Ext. Static Pressure	Pa(InWg)		50(0.2)		50(0.2)
	Ext. Static Pressure Range	Pa(InWg)		0-200(0-0.8)		0-200(0-0.8)
Sound Pressure Level(H/M/L)		dB(A)		47/46/44/40		48/45/43/41
Air Filter		-		PP		PPKZ
Drain Piping		mm(inch)		Φ20×1.2 (Φ0.79×0.05)		Φ20×1.2 (Φ0.79×0.05)
Outline Dimensions (W×H×D)		mm(inch)		1225×290×775 (48.3×11.4×30.5)		1340×350×750 (52.8×13.8×29.5)
Net Weight		kg(lb)		47.0(103.6)		57.0(125.6)
Outdoor Unit				UMAT30HP230V1BO		UMAT36HP230V1BO
Power Supply		-		208/230V~60Hz		
Heat Exchange		-		Cross Fin Coil		Cross Fin Coil
Compressor	Type	-		Rotary		Rotary
	Power Input	W		2800		3100
Refrigerant	Control	-		Electronic Expansion Valve		Electronic Expansion Valve
	Charge	kg(oz)		2.40(84.67)		3.50(123.48)
Outline Dimensions (W×H×D)		mm(inch)		980×790×425 (38.6×31.1×16.8)		1105×1100×440 (43.6×43.2×17.3)
Net Weight		kg(lb)		72.0(158.8)		101.0(222.6)
Piping Connections	Liquid	Inch		Φ3/8		Φ3/8
	Gas	Inch		Φ5/8		Φ5/8
	Max. Length	m(ft)		50(164)		70(230)
	Max. Height	m(ft)		15(49.2)		15(49.2)

Model	Indoor unit		UMAT42HP230V1BD	UMAT48HP230V1BD
	Outdoor unit		UMAT42HP230V1BO	UMAT48HP230V1BO
Capacity	Cooling Capacity	kW	12.0(3.90-12.50)	14.0(6.00-14.50)
	Heating Capacity	kW	13.8(3.90-15.50)	16.0(5.20-17.00)
Power Input	Cooling	kW	4.00(0.65-4.70)	5.15(1.40-5.60)
	Heating	kW	3.10(0.76-4.75)	5.15(1.30-5.50)
SEER / HSPF		(Btu/h)/W	16.00/9.00	16.00/9.00
Indoor Unit			UMAT42HP230V1BD	UMAT48HP230V1BD
Power Supply		-	208/230V~60Hz	
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil
Fan	Drive	-	Direct	Direct
	Motor Output	kW	0.56×1	0.56×1
	Air Flow	m3/h(CFM)	2200(1295)	2000(1175)
	Rated Ext. Static Pressure	Pa(InWg)	50(0.2)	50(0.2)
	Ext. Static Pressure Range	Pa(InWg)	0-200(0-0.8)	0-200(0-0.8)
Sound Pressure Level(H/M/L)		dB(A)	50/48/46/43	51/48/46/44
Air Filter		-	PP	PP
Drain Piping		mm(inch)	Φ20×1.2 (Φ0.79×0.05)	Φ20×1.2 (Φ0.79×0.05)
Outline Dimensions (W×H×D)		mm(inch)	340×350×750mm (52.8×13.8×29.5)	340×350×750mm (52.8×13.8×29.5)
Net Weight		kg(lb)	59.0(130.0)	59.0(130.0)
Outdoor Unit			UMAT42HP230V1BO	UMAT48HP230V1BO
Power Supply		-	208/230V~60Hz	
Heat Exchange		-	Cross Fin Coil	Cross Fin Coil
Compressor	Type	-	Rotary	Rotary
	Power Input	W	3750	4900
Refrigerant	Control	-	Electronic Expansion Valve	Electronic Expansion Valve
	Charge	kg(oz)	3.70(130.54)	4.00(141.12)
Outline Dimensions (W×H×D)		mm(inch)	960×1350×410 (37.7×53.1×16.2)	960×1350×410 (37.7×53.1×16.2)
Net Weight		kg(lb)	107.0(235.8)	107.0(235.8)
Piping Connections	Liquid	Inch	Φ3/8	Φ3/8
	Gas	Inch	Φ5/8	Φ5/8
	Max. Length	m(ft)	50(164)	70(230)
	Max. Height	m(ft)	15(49.2)	15(49.2)

Note:
a. The design of this unit conforms to the requirements of ARI 210/240-2008 standard.
b. The air volume is measured at the relevant standard external static pressure.
c. Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on nameplate shall prevail.

Mode		Indoor	Outdoor
Cooling		DB: 26.7°C(80.0°F) WB: 19.4°C(67.0°F)	DB: 35.0°C(95.0°F) WB: 23.9°C(75.0°F)
Heating		DB: 21.1°C(70.0°F) WB: 15.6°C(60.0°F)	DB: 8.33°C(47.0°F) WB: 6.11°C(43.0°F)
Piping Length	18k~48k units	7.6m(25.0 ft)	

4.2 Operation Range

Mode	Range of Outdoor Temperature °C(°F)
Cooling	-18.0°C(0°F)~ 46.1°C(115.0°F)
Heating	-18.0°C(0°F)~24.0°C(75.2°F)

4.3 Cooling Performance

Notes:
DB: Dry Bulb Temperature(°C) WB: Wet Bulb Temperature(°C) ESP: External Static Pressure
TC: Total Capacity(Unit: kW) SHC: Sensible Heat Capacity(Unit: kW)

4.3.1 Duct Type

UMAT18HP230V1BD:

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1000(585)	50(0.2)	22.2(72.0)	16.1(61.0)	5.02	17.14	3.39	11.57	4.83	16.48	3.32	11.32
		25.0(77.0)	18.3(65.0)	5.27	17.98	3.43	11.69	5.07	17.29	3.31	11.31
		26.7(80.0)	19.4(67.0)	5.38	18.35	3.38	11.52	5.17	17.64	3.29	11.22
		30.0(86.0)	22.2(72.0)	5.70	19.47	3.36	11.46	5.49	18.72	3.24	11.04
		32.2(90.0)	23.9(75.0)	5.97	20.35	3.28	11.19	5.74	19.57	3.21	10.96

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1000(585)	50(0.2)	22.2(72.0)	16.1(61.0)	4.68	15.95	3.25	15.95	4.21	14.36	2.95	10.05
		25.0(77.0)	18.3(65.0)	4.90	16.72	3.23	16.72	4.41	15.05	2.95	10.08
		26.7(80.0)	19.4(67.0)	5.00	17.06	3.24	17.06	4.50	15.35	2.97	10.13
		30.0(86.0)	22.2(72.0)	5.30	18.08	3.18	18.08	4.77	16.28	2.91	9.93
		32.2(90.0)	23.9(75.0)	5.52	18.82	3.14	18.82	4.96	16.94	2.88	9.82

UMAT24HP230V1BD:

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	22.2(72.0)	16.1(61.0)	7.03	23.99	4.75	16.19	6.76	23.07	4.64	15.85
		25.0(77.0)	18.3(65.0)	7.38	25.17	4.80	16.36	7.09	24.20	4.64	15.83
		26.7(80.0)	19.4(67.0)	7.53	25.68	4.73	16.13	7.24	24.70	4.60	15.71
		30.0(86.0)	22.2(72.0)	7.99	27.25	4.70	16.05	7.68	26.20	4.53	15.46
		32.2(90.0)	23.9(75.0)	8.35	28.49	4.59	15.67	8.03	27.40	4.50	15.34

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	22.2(72.0)	16.1(61.0)	6.55	22.33	4.56	22.33	5.89	20.10	4.12	14.07
		25.0(77.0)	18.3(65.0)	6.86	23.41	4.53	23.41	6.17	21.07	4.14	14.11
		26.7(80.0)	19.4(67.0)	7.00	23.88	4.54	23.88	6.30	21.50	4.16	14.19
		30.0(86.0)	22.2(72.0)	7.42	25.32	4.45	25.32	6.68	22.79	4.07	13.90
		32.2(90.0)	23.9(75.0)	7.72	26.34	4.40	26.34	6.95	23.71	4.03	13.75

UMAT30HP230V1BD::

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	22.2(72.0)	16.1(61.0)	8.34	28.45	5.63	19.20	8.02	27.35	5.51	18.79
		25.0(77.0)	18.3(65.0)	8.75	29.84	5.69	19.40	8.41	28.70	5.50	18.77
		26.7(80.0)	19.4(67.0)	8.93	30.45	5.61	19.12	8.58	29.28	5.46	18.62
		30.0(86.0)	22.2(72.0)	9.47	32.31	5.58	19.03	9.11	31.07	5.37	18.33
		32.2(90.0)	23.9(75.0)	9.90	33.79	5.45	18.58	9.52	32.49	5.33	18.19

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc))	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	22.2(72.0)	16.1(61.0)	7.76	26.48	5.40	26.48	6.98	23.83	4.89	16.68
		25.0(77.0)	18.3(65.0)	8.13	27.75	5.37	27.75	7.32	24.98	4.90	16.74
		26.7(80.0)	19.4(67.0)	8.30	28.32	5.38	28.32	7.47	25.49	4.93	16.82
		30.0(86.0)	22.2(72.0)	8.80	30.02	5.28	30.02	7.92	27.02	4.83	16.48
		32.2(90.0)	23.9(75.0)	9.15	31.24	5.22	31.24	8.24	28.11	4.78	16.31

UMAT36HP230V1BD:

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	22.2(72.0)	16.1(61.0)	10.04	34.27	6.78	23.13	9.66	32.95	6.64	22.64
		25.0(77.0)	18.3(65.0)	10.54	35.96	6.85	23.37	10.13	34.57	6.63	22.61
		26.7(80.0)	19.4(67.0)	10.75	36.69	6.75	23.04	10.34	35.28	6.58	22.44
		30.0(86.0)	22.2(72.0)	11.41	38.93	6.72	22.93	10.97	37.43	6.47	22.09
		32.2(90.0)	23.9(75.0)	11.93	40.71	6.56	22.39	11.47	39.14	6.42	21.92

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	22.2(72.0)	16.1(61.0)	9.35	31.90	6.51	31.90	8.42	28.71	5.89	20.10
		25.0(77.0)	18.3(65.0)	9.80	33.44	6.47	33.44	8.82	30.09	5.91	20.16
		26.7(80.0)	19.4(67.0)	10.00	34.12	6.48	34.12	9.00	30.71	5.94	20.27
		30.0(86.0)	22.2(72.0)	10.60	36.17	6.36	36.17	9.54	32.55	5.82	19.86
		32.2(90.0)	23.9(75.0)	11.03	37.63	6.29	37.63	9.93	33.87	5.76	19.65

UMAT42HP230V1BD:

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc))	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	22.2(72.0)	16.1(61.0)	11.55	39.41	7.80	26.60	11.11	37.90	7.63	26.04
		25.0(77.0)	18.3(65.0)	12.12	41.35	7.88	26.88	11.65	39.76	7.62	26.00
		26.7(80.0)	19.4(67.0)	12.37	42.19	7.77	26.50	11.89	40.57	7.56	25.80
		30.0(86.0)	22.2(72.0)	13.12	44.77	7.73	26.37	12.62	43.05	7.44	25.40
		32.2(90.0)	23.9(75.0)	13.72	46.81	7.55	25.75	13.19	45.01	7.39	25.21

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	22.2(72.0)	16.1(61.0)	10.75	36.69	7.48	36.69	9.68	33.02	6.77	23.11
		25.0(77.0)	18.3(65.0)	11.27	38.45	7.44	38.45	10.14	34.61	6.80	23.19
		26.7(80.0)	19.4(67.0)	11.50	39.24	7.45	39.24	10.35	35.31	6.83	23.31
		30.0(86.0)	22.2(72.0)	12.19	41.59	7.31	41.59	10.97	37.43	6.69	22.83
		32.2(90.0)	23.9(75.0)	12.68	43.28	7.23	43.28	11.42	38.95	6.62	22.59

UMAT48HP230V1BD::

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				25.0°C(77.0°F)				32°C(89.6°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2500(1470)	50(0.2)	22.2(72.0)	16.1(61.0)	14.06	47.98	9.49	32.39	13.52	46.14	9.29	31.70
		25.0(77.0)	18.3(65.0)	14.75	50.34	9.59	32.72	14.19	48.40	9.28	31.66
		26.7(80.0)	19.4(67.0)	15.06	51.37	9.45	32.26	14.48	49.39	9.21	31.41
		30.0(86.0)	22.2(72.0)	15.97	54.50	9.41	32.10	15.36	52.41	9.06	30.92
		32.2(90.0)	23.9(75.0)	16.70	56.99	9.19	31.34	16.06	54.80	8.99	30.69

Air Flow Rate	ESP	Indoor Air Temperature		Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)							
				35.0°C(95.0°F)				43.3°C(110°F)			
				TC		SHC		TC		SHC	
m^3/h(CFM)	Pa(In Wc)	DB °C(°F)	WB °C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2500(1470)	50(0.2)	22.2(72.0)	16.1(61.0)	13.09	44.66	9.11	44.66	11.78	40.20	8.25	28.14
		25.0(77.0)	18.3(65.0)	13.72	46.81	9.06	46.81	12.35	42.13	8.27	28.23
		26.7(80.0)	19.4(67.0)	14.00	47.77	9.07	47.77	12.60	42.99	8.32	28.37
		30.0(86.0)	22.2(72.0)	14.84	50.63	8.90	50.63	13.36	45.57	8.15	27.80
		32.2(90.0)	23.9(75.0)	15.44	52.69	8.80	52.69	13.90	47.42	8.06	27.50

4.4 Heating Performance

Duct Type

UMAT18HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc)	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1000(585)	50(0.2)	16.1/61.0	4.33	14.78	4.56	15.54	4.78	16.30	5.50	18.77	5.94	20.27
		18.3/65.0	4.31	14.71	4.53	15.47	4.75	16.22	5.50	18.77	5.94	20.27
		21.1/70.0	4.29	14.64	4.51	15.39	4.73	16.14	5.50	18.77	5.94	20.27
		22.2.72.0	4.27	14.56	4.49	15.31	4.71	16.06	5.50	18.77	5.94	20.27
		23.9/75.0	4.25	14.49	4.46	15.23	4.68	15.98	5.50	18.77	5.94	20.27

UMAT24HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc)	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	16.1/61.0	6.30	21.50	6.63	22.61	6.95	23.71	8.00	27.30	8.64	29.48
		18.3/65.0	6.27	21.40	6.59	22.49	6.91	23.59	8.00	27.30	8.64	29.48
		21.1/70.0	6.24	21.29	6.56	22.38	6.88	23.47	8.00	27.30	8.64	29.48
		22.2.72.0	6.21	21.18	6.53	22.27	6.85	23.36	8.00	27.30	8.64	29.48
		23.9/75.0	6.18	21.08	6.49	22.16	6.81	23.24	8.00	27.30	8.64	29.48

UMAT30HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc)	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
1400(820)	50(0.2)	16.1/61.0	7.25	24.73	7.62	26.00	7.99	27.27	9.20	31.39	9.94	33.90
		18.3/65.0	7.21	24.61	7.58	25.87	7.95	27.13	9.20	31.39	9.94	33.90
		21.1/70.0	7.18	24.48	7.54	25.74	7.91	27.00	9.20	31.39	9.94	33.90
		22.2.72.0	7.14	24.36	7.51	25.61	7.87	26.86	9.20	31.39	9.94	33.90
		23.9/75.0	7.10	24.24	7.47	25.48	7.83	26.73	9.20	31.39	9.94	33.90

UMAT36HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	16.1/61.0	9.21	31.43	9.70	33.08	9.84	33.57	12.00	40.94	12.96	44.22
		18.3/65.0	9.17	31.27	9.65	32.92	9.84	33.57	12.00	40.94	12.96	44.22
		21.1/70.0	9.12	31.12	9.60	32.76	9.84	33.57	12.00	40.94	12.96	44.22
		22.2.72.0	9.07	30.96	9.55	32.59	9.84	33.57	12.00	40.94	12.96	44.22
		23.9/75.0	9.03	30.81	9.50	32.43	9.84	33.57	12.00	40.94	12.96	44.22

UMAT42HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc)	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2000(1175)	50(0.2)	16.1/61.0	9.98	34.05	10.50	35.84	10.66	36.37	13.00	44.36	14.04	47.90
		18.3/65.0	9.93	33.88	10.45	35.66	10.66	36.37	13.00	44.36	14.04	47.90
		21.1/70.0	9.88	33.71	10.40	35.48	10.66	36.37	13.00	44.36	14.04	47.90
		22.2.72.0	9.83	33.54	10.35	35.31	10.66	36.37	13.00	44.36	14.04	47.90
		23.9/75.0	9.78	33.37	10.30	35.13	10.66	36.37	13.00	44.36	14.04	47.90

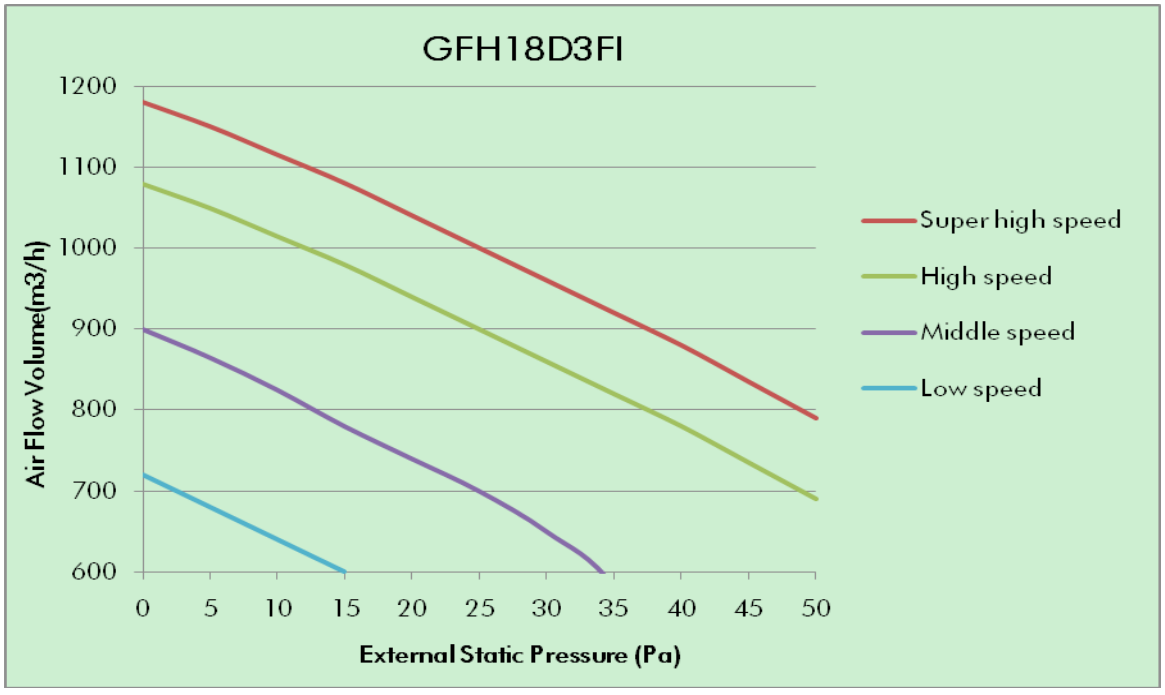
UMAT48HP230V1BD:

Air Flow Rate	ESP	Indoor Air Dry Bulb Temperature	Outdoor Air Dry Bulb Temperature(Outdoor air: 85% RH)									
			-10.0°C(14.0°F)		-5.0°C(23.0°F)		0°C(32.0°F)		8.33°C(47.0°F)		10.0°C(50.0°F)	
			Total Capacity		Total Capacity		Total Capacity		Total Capacity		Total Capacity	
m^3/h(CFM)	Pa(In Wc)	°C(°F)	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h	kW	kBtu/h
2500(1470)	50(0.2)	16.1/61.0	12.12	41.35	12.60	43.01	12.80	43.67	16.00	54.59	17.28	58.96
		18.3/65.0	12.06	41.15	12.54	42.79	12.80	43.67	16.00	54.59	17.28	58.96
		21.1/70.0	12.00	40.94	12.48	42.58	12.80	43.67	16.00	54.59	17.28	58.96
		22.2.72.0	11.94	40.74	12.42	42.37	12.80	43.67	16.00	54.59	17.28	58.96
		23.9/75.0	11.88	40.53	12.36	42.16	12.80	43.67	16.00	54.59	17.28	58.96

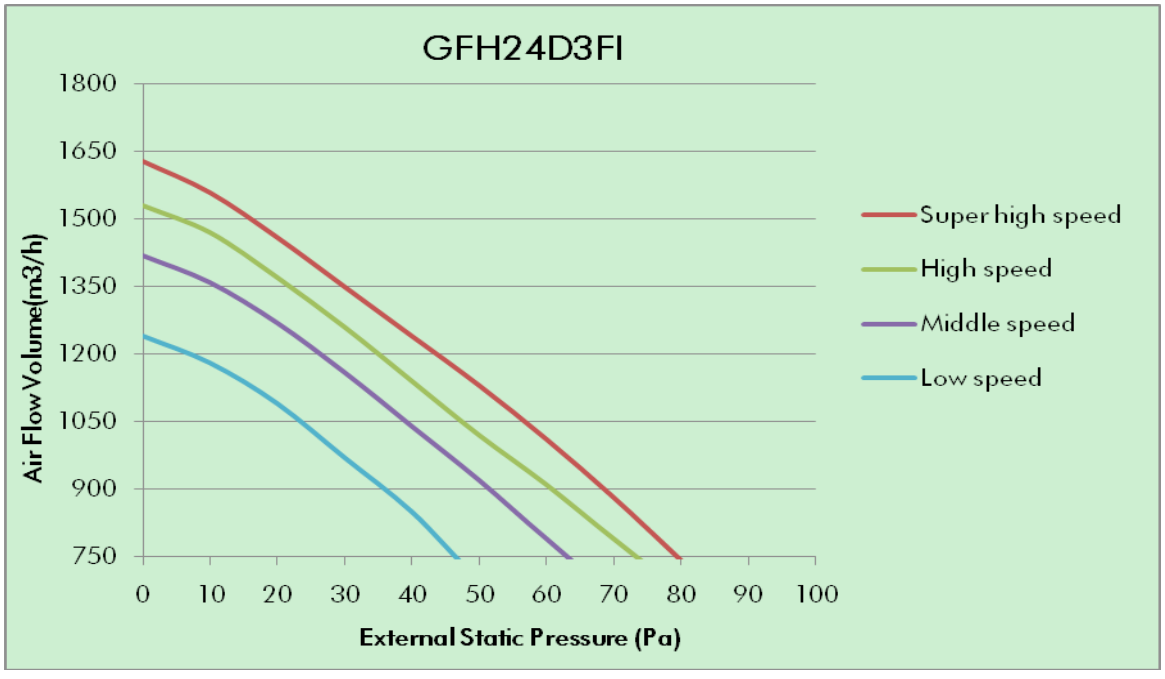
4 Electrical Data

5 FAN CHARACTERISTICS

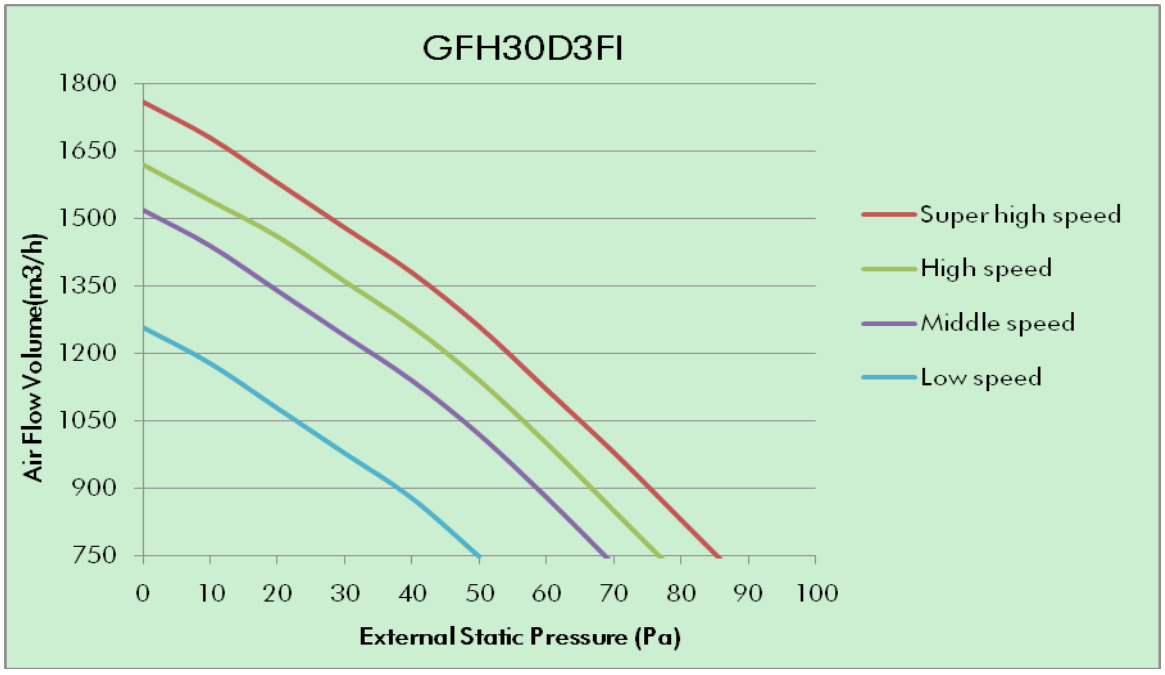
UMAT18HP230V1BD:



UMAT24HP230V1BD:



UMAT30HP230V1BD:



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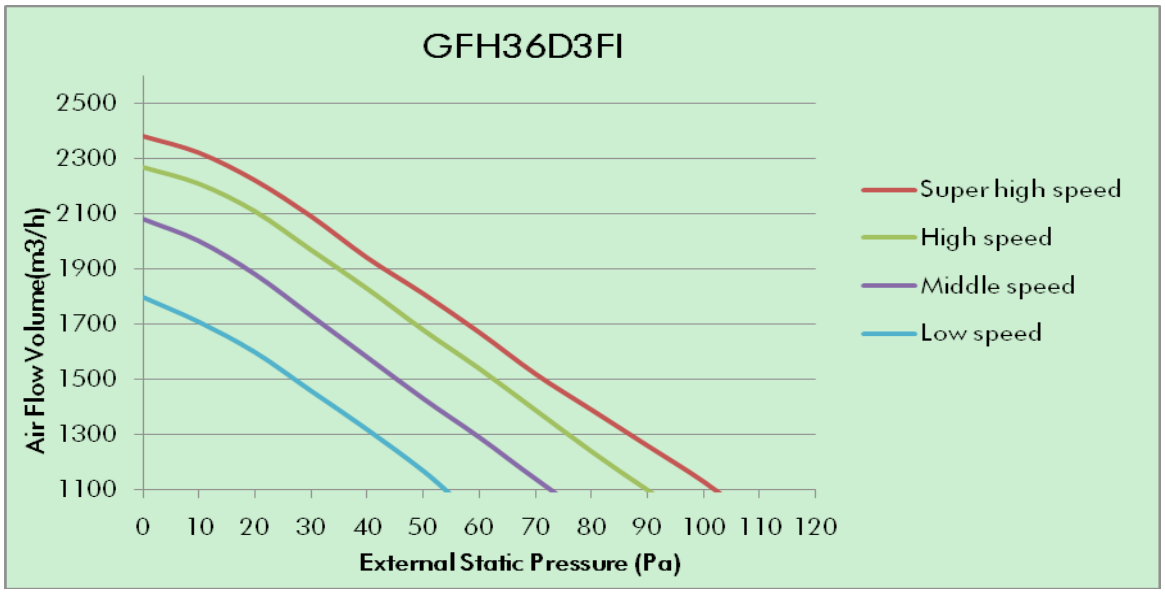

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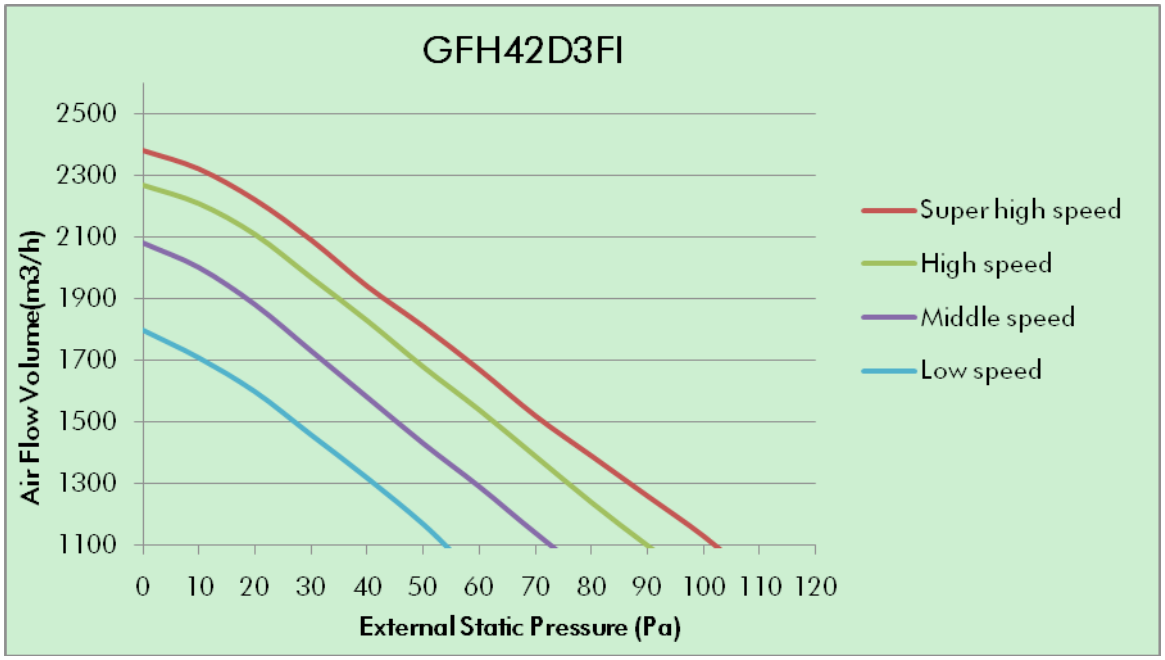

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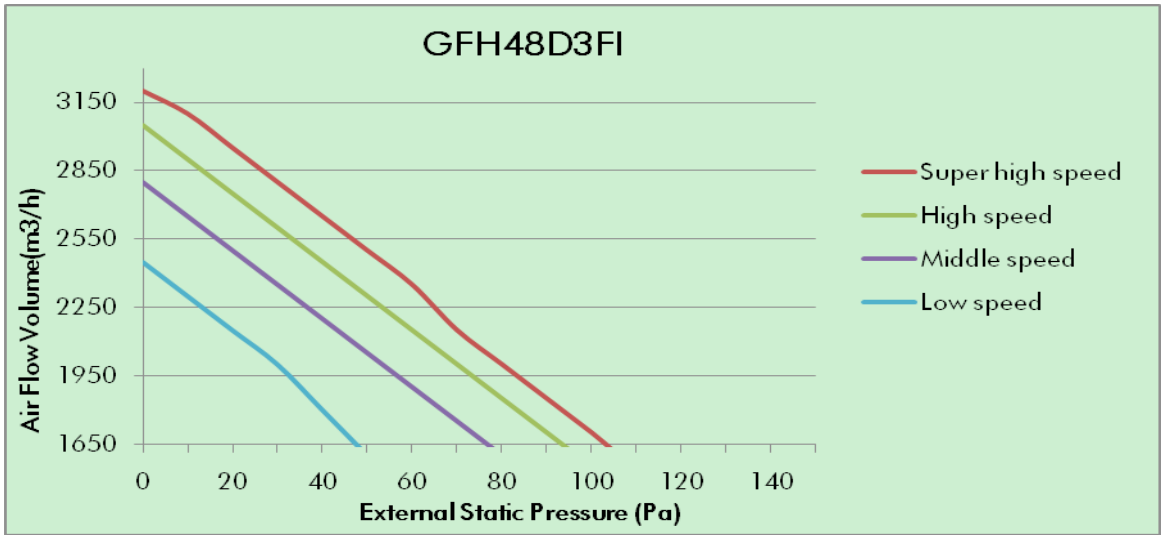
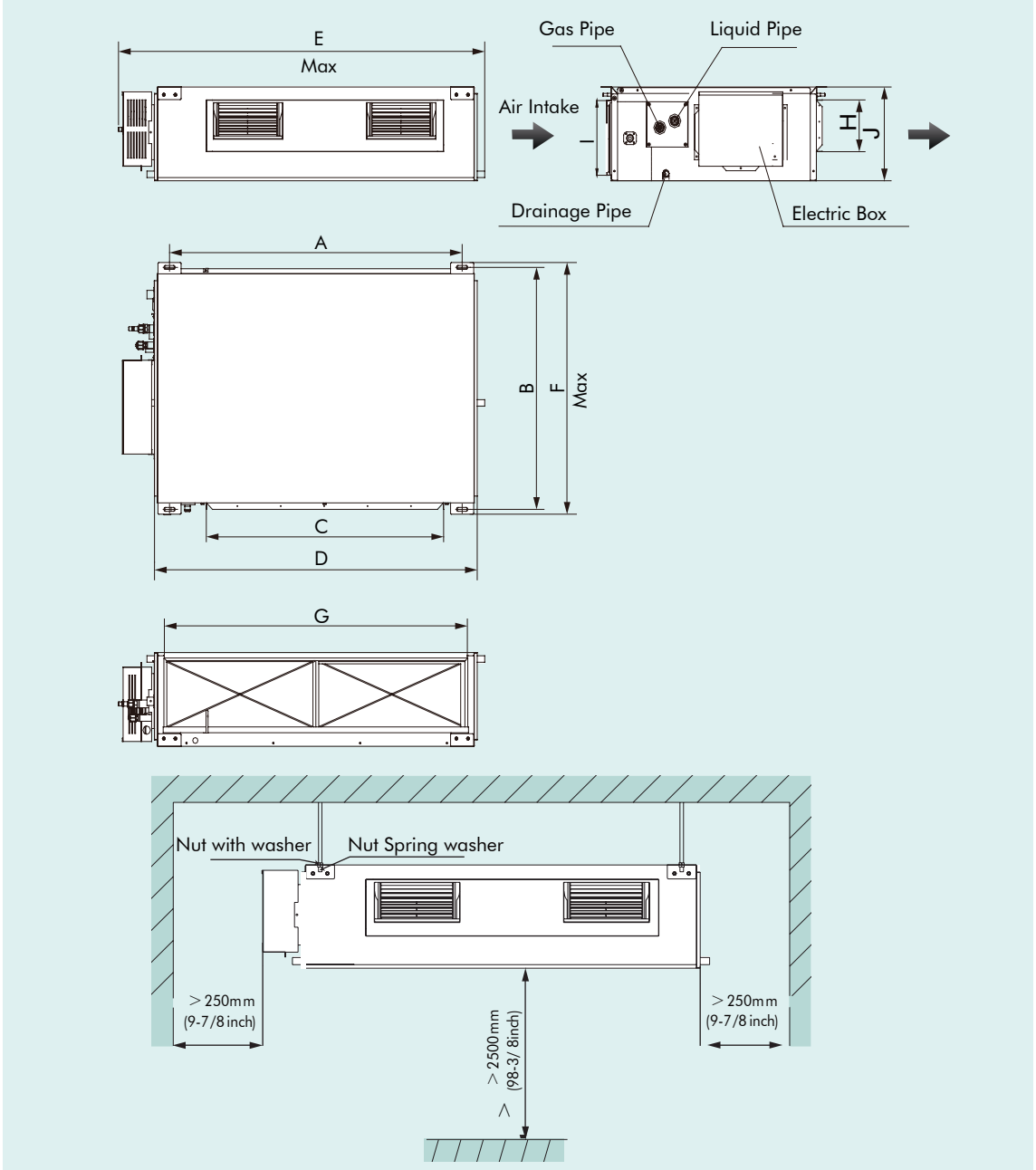


6 DIMENSIONS

6.1 Indoor Units

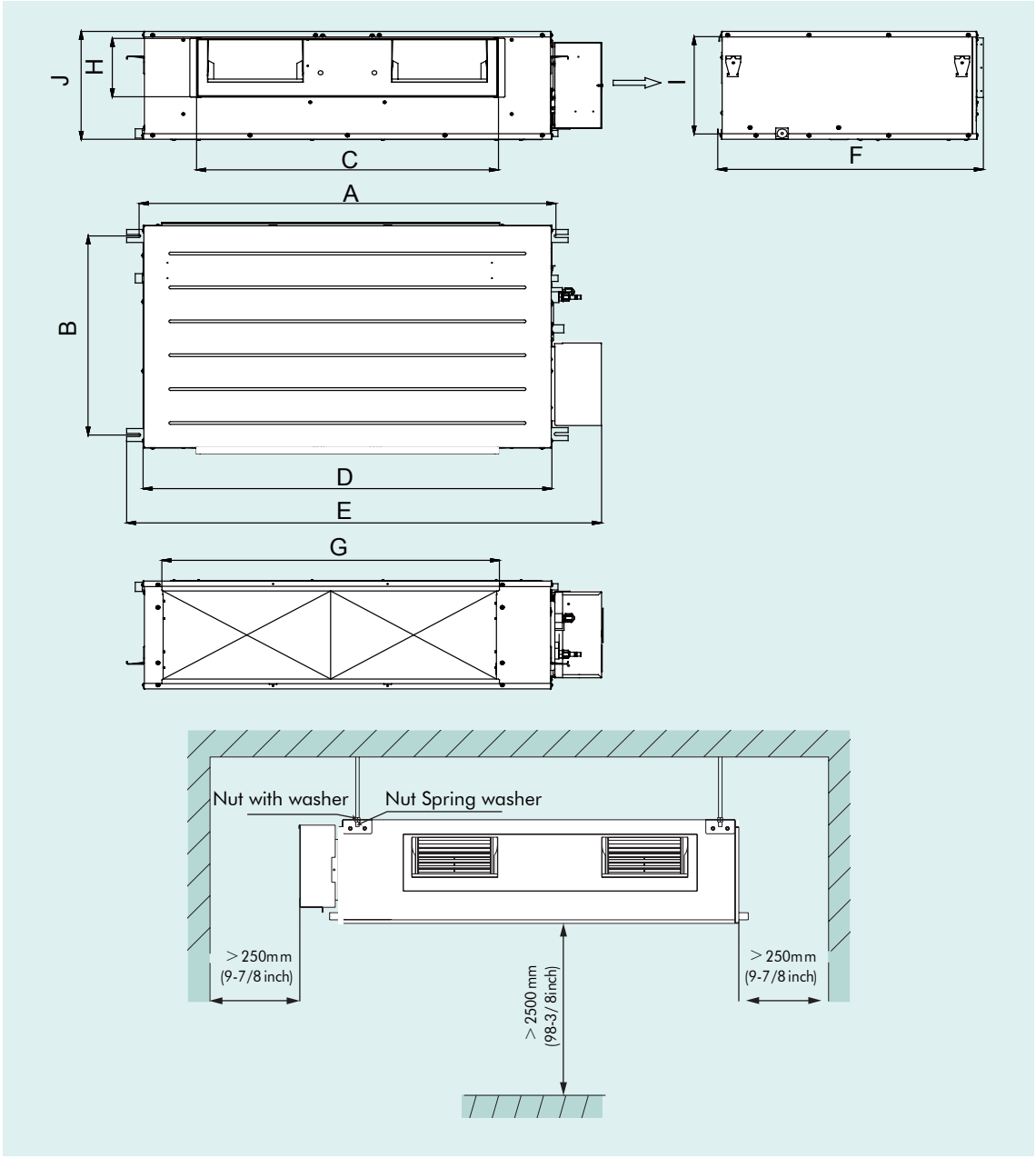
6.1.1 Duct Type

For: 18k/24k/30k units



Note: The condensate drain line should be installed with a minimum of 5° slope to ensure proper drainage.

For: 36k/42k/48k units

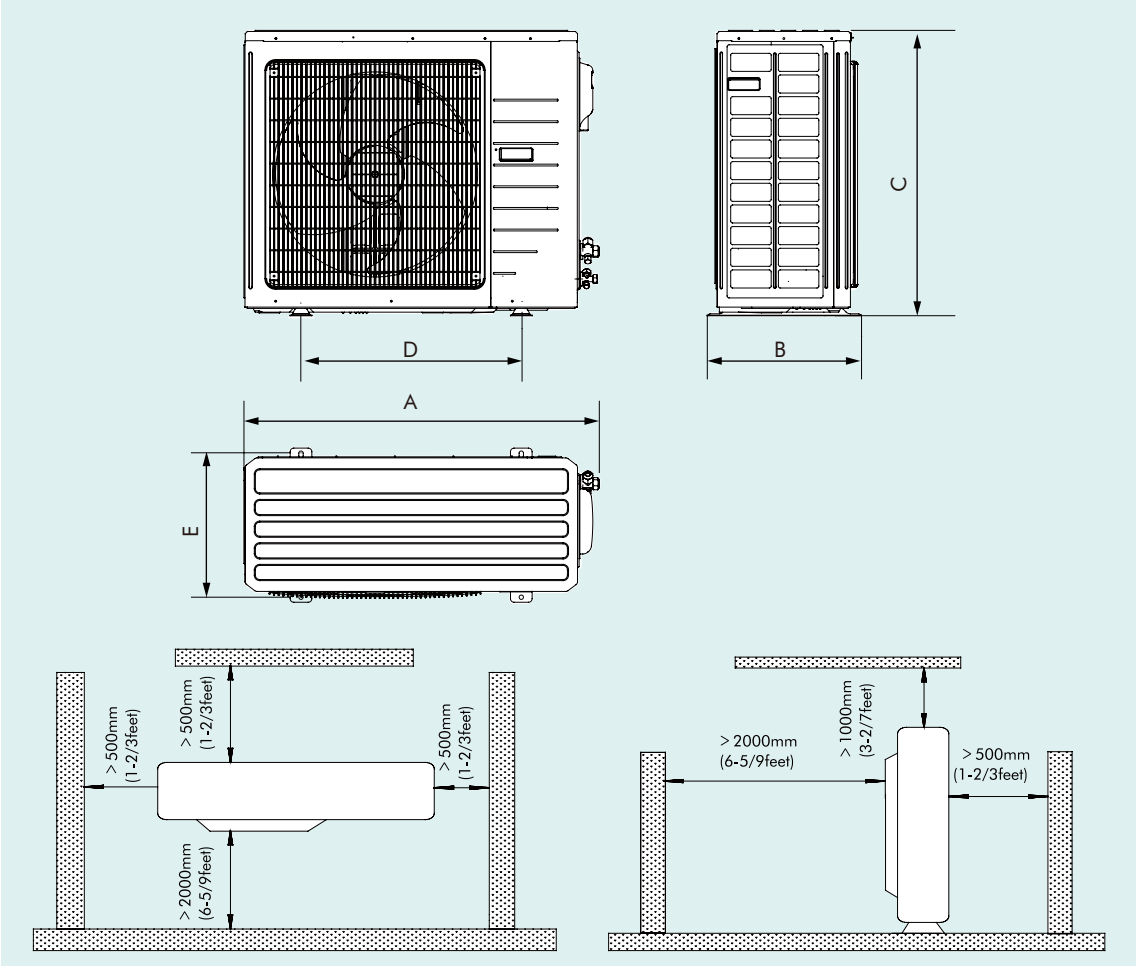


Unit: mm

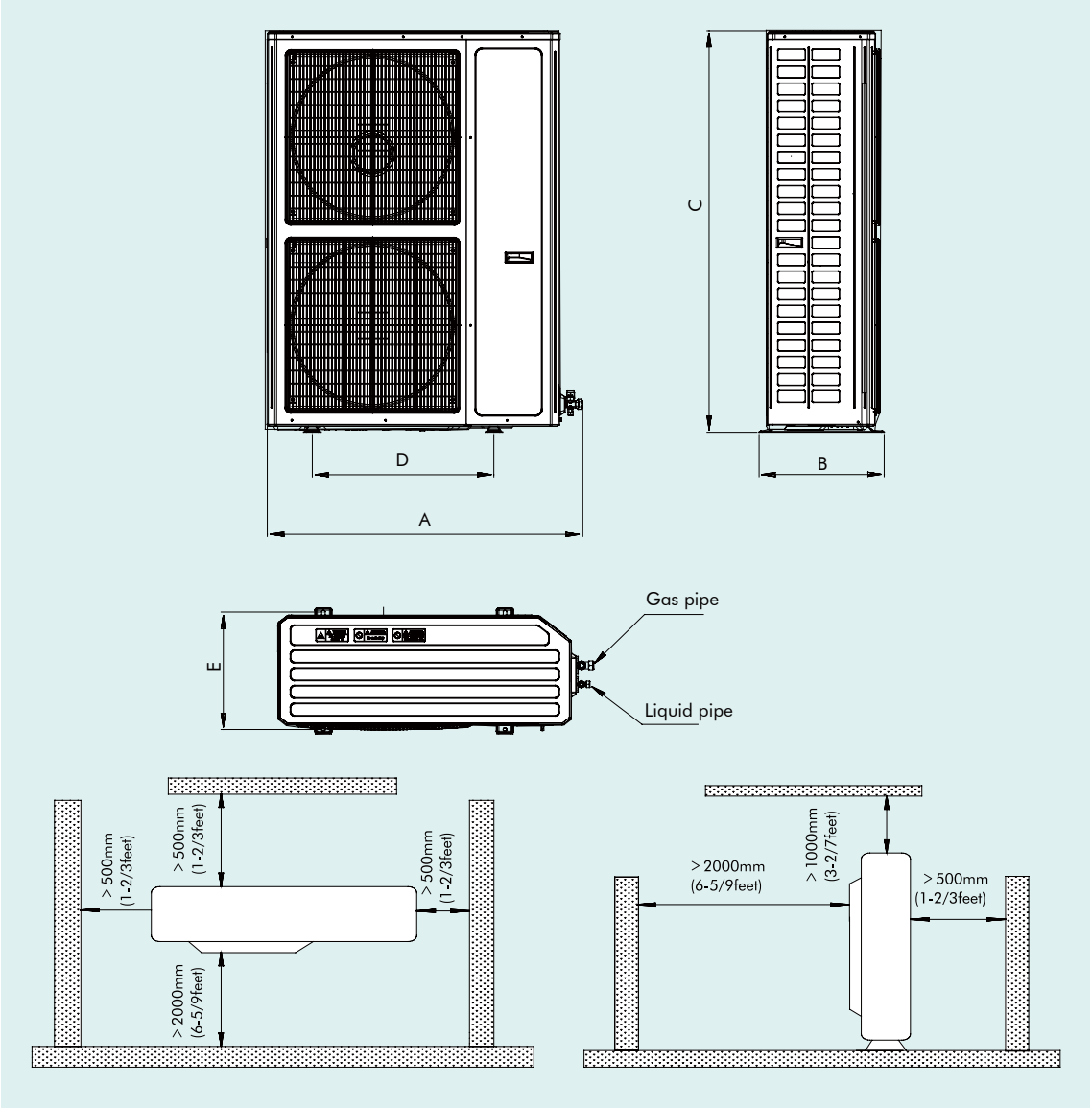
Item / Model	A	B	C	D	E	F	G	H	I	J
UMAT18HP230V1BD	1100 (43-3/8)	515 (20-3/8)	820 (32-1/4)	1160 (45-5/8)	1280 (50-3/8)	560 (22)	1000 (39-1/2)	160 (6-1/4)	235 (9-1/4)	270 (10-1/2)
UMAT24HP230V1BD	1010 (39-3/4)	750 (29-1/2)	820 (32-1/4)	1115 (43-7/8)	1225 (48-1/4)	775 (30-1/2)	980 (38-5/8)	160 (6-1/4)	230 (9)	290 (11-3/8)
UMAT30HP230V1BD										
UMAT36HP230V1BD	1175 (46-1/4)	645 (25-3/8)	850 (33-1/2)	1150 (45-1/4)	1340 (85-1/4)	750 (29-1/2)	980 (38-5/8)	19 5(7-5/8)	230 (9)	350 (13-3/4)
UMAT42HP230V1BD										
UMAT42HP230V1BD										

6.2 Outdoor Units

For 18k/24k/30k/36k unit:



For 42k/48k unit:



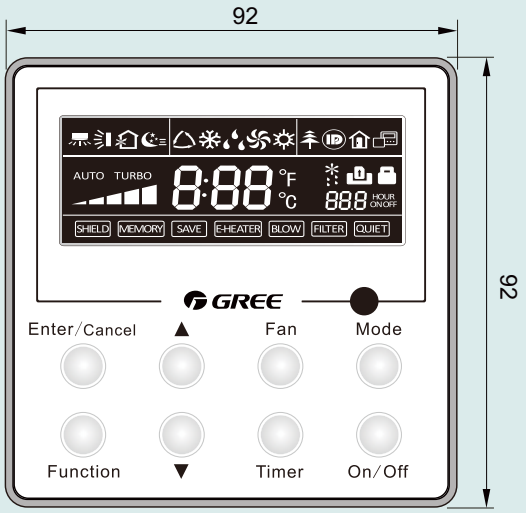
Units: mm (in)

Model	A	B	C	D	E
UMAT18HP230V1BO	955(37-5/8)	395(15-5/8)	700(27-1/2)	560(22)	360(14-1/8)
UMAT24HP230V1BO	980(38-5/8)	425(16-3/4)	790(31-1/8)	610(24)	390(15-1/2)
UMAT30HP230V1BO	1105(43-5/8)	440(17-3/8)	1100(43-1/4)	630(24-7/8)	400(15-3/4)
UMAT36HP230V1BO					
UMAT42HP230V1BO	960(37-3/4)	410(16-1/4)	1350(53-1/8)	570(22-1/2)	375(14-3/4)
UMAT48HP230V1BO					

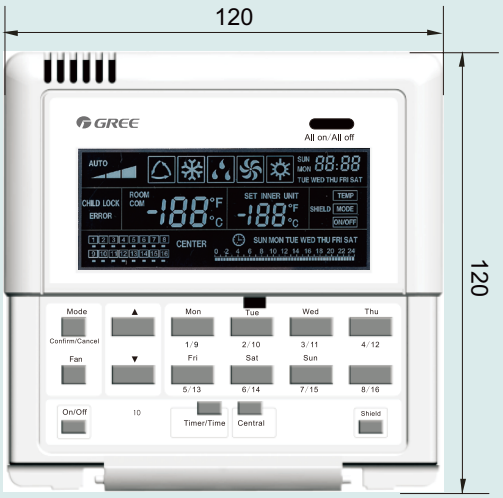
6.3 Dimension – Controller

Unit: mm

Wired Controller (Standard)



Centralized Controller

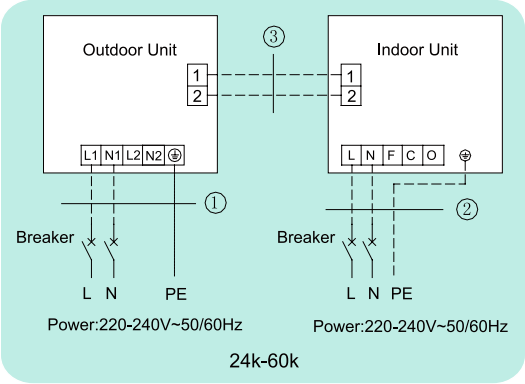


Centralized Controller not available in the U.S.

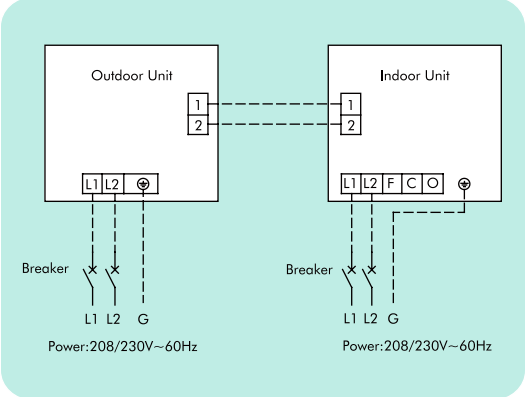
7 WIRING DIAGRAM

7.1 Field Wiring Diagrams

For 18k/24k/30k unit



For 36k/42k/48k unit:



NOTE:

The communication wires between indoor and outdoor unit: 2×0.75mm^2 (AWG18).

7.2 Specification of Power Supply Wire and Air Switchw

7.2.1 Outdoor Unit

Model	Power Supply (V, Ph, Hz)	Capability of Breaker	Minimum Circuit Ampacity	Maximum Overcurrent Protection
		A	A	A
UMAT18HP230V1BO	208/230,1,60	25	15.5	25
UMAT24HP230V1BO	208/230,1,60	35	23	35
UMAT30HP230V1BO	208/230,1,60	45	26.5	45
UMAT36HP230V1BO	208/230,1,60	70	30.5	70
UMAT42HP230V1BO	208/230,1,60	70	31	70
UMAT48HP230V1BO	208/230,1,60	70	43	70

7.2.2 Indoor Unit

Model	Power Supply (V, Ph, Hz)	Capability of Breaker	Minimum Circuit Ampacity	Maximum Overcurrent Protection
		A	A	A
UMAT18HP230V1BD	208/230,1,60	15	1.38	15
UMAT24HP230V1BD	208/230,1,60	15	2.1	15
UMAT30HP230V1BD	208/230,1,60	15	2.1	15
UMAT36HP230V1BD	208/230,1,60	15	5	15
UMAT42HP230V1BD	208/230,1,60	15	5	15
UMAT42HP230V1BD	208/230,1,60	15	5	15

Note:
a. The specifications of the breaker and power supply wire listed in the table above are determined based on the maximum power (maximum amps) of the unit.
b. The specifications of the power supply wire listed in the table above are applied to the conduit-guarded multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C and resistible to 90°C. If the working condition changes, they should be modified according to the related national standard.
c. The specifications of the breaker listed in the table above are applied to the breaker with the working temperature at 40°C . If the working condition changes, they should be modified according to the related national standard.

8 ACCESSORIES

Class / Model Name	Wireless controller	wired controller	Central controller with weekly timer	Long-distance monitoring system	Communication cable	Water pump	Flexible pipe
UMAT18HP230V1BD UMAT24HP230V1BD UMAT30HP230V1BD UMAT36HP230V1BD GFH42D3F2I GFH48D3F2I	○	●	○	○	○	/	●
GFH18D3F3I GFH24D3F3I GFH30D3F3I GFH36D3F3I GFH42D3F3I GFH48D3F3I	○	●	○	○	○	●	●

Note: " ● " is standard part ; " ○ " is optional; "/" is unavailable.

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With the installation of Gree commercial air conditioners in important projects at home and abroad like Media Village for 2008 Beijing Olympic Games, Stadiums for 2010 World Cup in South Africa, as well as the India Telecom base station, Gree commercial air conditioners are ready to easily incorporate into every corner in the world, to present a more comfortable and harmonious working environment and family atmosphere.

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SJ00454617