

Service Manual

Models: GDN10AH-K4EBB1C GDN20AH-K4EBB1C
GDN10AH-K4EBB2C GDN20AH-K4EBB2C
GDN10AH-K4EBB3C GDN20AH-K4EBB3C
GDN12AH-K4EBB1C GDN24AH-K4EBB1C
GDN12AH-K4EBB2C GDN24AH-K4EBB2C
GDN12AH-K4EBB3C GDN24AH-K4EBB3C
GDN16AH-K4EBB1C (Refrigerant R134a)
GDN16AH-K4EBB2C
GDN16AH-K4EBB3C

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2.Specifications

Model			GDN10AH-K4EBB1C	GDN12AH-K4EBB1C
Product Code			CK051026100	CK051026200
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Rated Dehumidifying Volume	L/h		0.17	0.18
Power Input	W		220	220
Power Current	A		1.20	1.20
Set Humidity Range	%		35~80	35~80
Air Flow Volume(H/M/L)	m ³ /h		150/120/100	150/120/100
Fan Motor Speed (H/M/L)	r/min		930/800/650	930/800/650
Output of Fan Motor	W		6	6
Fan Motor Capacitor	μF		1.0	1.0
Fan Type			Centrifugal	Centrifugal
Diameter Length(DXL)	mm		Φ180X76.5	Φ180X76.5
Throttling Method			Capillary	Capillary
Fuse	A		3.15	3.15
Sound Pressure Level (H/M/L)	dB (A)		43/41/39	43/41/39
Sound Power Level ((H/M/L)	dB (A)		53/51/49	53/51/49
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7	1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6	0.6
Dimension (WXHXD)	mm		343X525X260	343X525X260
Dimension of Carton Box (LXWXH)	mm		391X310X569	391X310X569
Dimension of Package (LXWXH)	mm		394X313X584	394X313X584
Application Area	m ²		14	14
Net Weight	kg		13	13
Gross Weight	kg		14.5	14.5
Refrigerant			R134a	R134a
Refrigerant Charge	kg		0.08	0.09
Bucket Capacity	L		4.0/4.6	4.0/4.6
Control Type			Electronic	Electronic
Evaporator	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	1-1.3	1-1.3
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Condenser	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	1-1.4	1-1.4
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Compressor	Compressor Manufacturer/Trademark		Shanghai Hitachi Electrical Appliances Co.,Ltd/HIGHLY	Shanghai Hitachi Electrical Appliances Co.,Ltd/HIGHLY
	Model		BSA418CV-R1AUA	BSA418CV-R1AUA
	Type		Rotary	Rotary
	Power Input	W	213	213
	Overload Protector		URP-191-78	URP-191-78
	L.R.A.	A	3.4	3.4
	Working Current	A	1.2	1.2

The above data is subject to change without notice; please refer to the nameplate of the unit.

Model			GDN24AH-K4EBB1C
Product Code			CK051026500
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Rated Dehumidification Capacity	L/h		0.50
Power Input	W		330
Current Input	A		1.50
Set Humidity Range	%		35~80
Air Flow Volume(H/M/L)	m ³ /h		180/160/140
Fan Motor Speed(H/M/L)	r/min		1150/1000/850
Fan Motor Power Output	W		10
Fan Motor RLA	A		0.16
Fan Motor Capacitor	μF		1.5
Fan Type			Centrifugal
Fan Diameter Length(DXL)	mm		Φ180X76.5
Throttling Method			Capillary
Fuse Current	A		3.15
Sound Pressure Level(H/M/L)	dB (A)		47/45/43
Sound Power Level(H/M/L)	dB (A)		57/55/53
Climate Type			T1
Isolation			I
Moisture Protection			IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6
Dimension (WXHXD)	mm		343X525X260
Dimension of Carton Box(LXWXH)	mm		391X310X569
Dimension of Package(LXWXH)	mm		394X313X584
Application Area	m ²		33.6
Net Weight	kg		16
Gross Weight	kg		17.5
Refrigerant			R134a
Refrigerant Charge	kg		0.24
Bucket Capacity	L		4.0/4.6
Control Type			Electronic
Evaporator	Evaporator Form		Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.3
	Evaporator Coil Length (LXDXW)	mm	235X25.4X190.5
Condenser	Condenser Form		Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (LXDXW)	mm	235X25.4X190.5
Compressor	Compressor Manufacturer		RECHI PRECISION CO.,LTD/RECHI
	Compressor Model		39E073HR&F^YA
	Compressor Type		Rotary
	Compressor Power Input	W	300
	Compressor Overload Protector		UP3-017
	Compressor LRA.	A	5.5
Compressor RLA	A	1.4	

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Model			GDN16AH-K4EBB2C	GDN20AH-K4EBB2C
Product Code			CK051023700	CK051023800
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Rated Dehumidifying Volume	L/h		0.33	0.41
Power Input	W		300	300
Power Current	A		1.35	1.5
Set Humidity Range	%		35~80	35~80
Air Flow Volume(H/M/L)	m ³ /h		180/160/140	180/160/140
Fan Motor Speed (H/M/L)	r/min		950/860/740	950/860/740
Output of Fan Motor	W		7	7
Fan Motor RLA	A		0.13	0.13
Fan Motor Capacitor	μF		1	1
Fan Type			Centrifugal	Centrifugal
Diameter Length(DXL)	mm		Φ180X76.5	Φ180X76.5
Throttling Method			Capillary	Capillary
Fuse	A		3.15	3.15
Sound Pressure Level (H/M/L)	dB (A)		45/43/41	45/43/41
Sound Power Level ((H/M/L)	dB (A)		55/53/51	55/53/51
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7	1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6	0.6
Dimension (WXHXD)	mm		343X525X262	343X525X262
Dimension of Carton Box (LXWXH)	mm		391X310X569	391X310X569
Dimension of Package (LXWXH)	mm		394X313X584	394X313X584
Application Area	m ²		22.4	28
Net Weight	kg		15	15.5
Gross Weight	kg		16.5	17
Refrigerant			R134a	R134a
Refrigerant Charge	kg		0.13	0.2
Bucket Capacity	L		4.0/4.6	4.0/4.6
Control Type			Electronic	Electronic
Evaporator	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	1-1.3	1-1.3
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Condenser	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	1-1.4	2-1.4
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Compressor	Compressor Manufacturer/Trademark		RECHI PRECISION CO.,LTD/ RECHI	RECHI PRECISION CO.,LTD/ RECHI
	Model		39E0G3HR&F^YA	39E073HR&F^YA
	Type		Rotary	Rotary
	Power Input	W	265	300
	Overload Protector		UP3-016	UP3-017
	L.R.A.	A	5.5	5.5
Working Current	A	1.2	1.4	

The above data is subject to change without notice; please refer to the nameplate of the unit.

Model			GDN24AH-K4EBB2C
Product Code			CK051023900
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Rated Dehumidification Capacity	L/h		0.50
Power Input	W		330
Current Input	A		1.50
Set Humidity Range	%		35~80
Air Flow Volume(H/M/L)	m ³ /h		180/160/140
Fan Motor Speed(H/M/L)	r/min		1150/1000/850
Fan Motor Power Output	W		10
Fan Motor RLA	A		0.16
Fan Motor Capacitor	μF		1.5
Fan Type			Centrifugal
Fan Diameter Length(DXL)	mm		Φ180X76.5
Throttling Method			Capillary
Fuse Current	A		3.15
Sound Pressure Level(H/M/L)	dB (A)		47/45/43
Sound Power Level(H/M/L)	dB (A)		57/55/53
Climate Type			T1
Isolation			I
Moisture Protection			IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6
Dimension (WXHXD)	mm		343X525X262
Dimension of Carton Box(LXWXH)	mm		391X310X569
Dimension of Package(LXWXH)	mm		394X313X584
Application Area	m ²		33.6
Net Weight	kg		16
Gross Weight	kg		17.5
Refrigerant			R134a
Refrigerant Charge	kg		0.24
Bucket Capacity	L		4.0/4.6
Control Type			Electronic
Evaporator	Evaporator Form		Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.3
	Evaporator Coil Length (LXDXW)	mm	235X25.4X190.5
Condenser	Condenser Form		Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (LXDXW)	mm	235X25.4X190.5
Compressor	Compressor Manufacturer		RECHI PRECISION CO.,LTD/RECHI
	Compressor Model		39E073HR&F^YA
	Compressor Type		Rotary
	Compressor Power Input	W	300
	Compressor Overload Protector		UP3-017
	Compressor LRA.	A	5.5
Compressor RLA	A	1.4	

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Model			GDN10AH-K4EBB3C	GDN12AH-K4EBB3C
Product Code			CK051026000	CK051025800
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Rated Dehumidifying Volume	L/h		0.17	0.18
Power Input	W		220	220
Power Current	A		1.20	1.20
Set Humidity Range	%		35~80	35~80
Air Flow Volume(H/M/L)	m ³ /h		150/120/100	150/120/100
Fan Motor Speed (H/M/L)	r/min		950/860/740	950/860/740
Output of Fan Motor	W		6	6
Fan Motor Capacitor	μF		1.0	1.0
Fan Type			Centrifugal	Centrifugal
Diameter Length(DXL)	mm		Φ180X76.5	Φ180X76.5
Throttling Method			Capillary	Capillary
Fuse	A		3.15	3.15
Sound Pressure Level (H/M/L)	dB (A)		43/41/39	43/41/39
Sound Power Level ((H/M/L)	dB (A)		53/51/49	53/51/49
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7	1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6	0.6
Dimension (WXHXD)	mm		343X525X270	343X525X270
Dimension of Carton Box (LXWXH)	mm		391X310X569	391X310X569
Dimension of Package (LXWXH)	mm		394X313X584	394X313X584
Application Area	m ²		14	14
Net Weight	kg		13	13
Gross Weight	kg		14.5	14.5
Refrigerant			R134a	R134a
Refrigerant Charge	kg		0.13	0.20
Bucket Capacity	L		4.0/4.6	4.0/4.6
Control Type			Electronic	Electronic
Evaporator	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	1-1.3	1-1.3
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Condenser	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	1-1.4	1-1.4
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Compressor	Compressor Manufacturer/Trademark		Shanghai Hitachi Electrical Appliances Co.,Ltd	Shanghai Hitachi Electrical Appliances Co.,Ltd
	Model		BSA418CV-R1AUN	BSA418CV-R1AUN
	Type		Rotary	Rotary
	Power Input	W	213	213
	Overload Protector		UP3-016	URP-191-78
	L.R.A.	A	3.4	3.4
Working Current	A	1.1	1.1	

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Model			GDN16AH-K4EBB3C	GDN20AH-K4EBB3C
Product Code			CK051025900	CK051025600
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Rated Dehumidifying Volume	L/h		0.33	0.41
Power Input	W		300	330
Power Current	A		1.35	1.50
Set Humidity Range	%		35~80	35~80
Air Flow Volume(H/M/L)	m ³ /h		180/160/140	180/160/140
Fan Motor Speed (H/M/L)	r/min		950/860/740	950/860/740
Output of Fan Motor	W		7	7
Fan Motor Capacitor	μF		1.0	1.0
Fan Type			Centrifugal	Centrifugal
Diameter Length(DXL)	mm		Φ180X76.5	Φ180X76.5
Throttling Method			Capillary	Capillary
Fuse	A		3.15	3.15
Sound Pressure Level (H/M/L)	dB (A)		45/43/41	45/43/41
Sound Power Level ((H/M/L)	dB (A)		55/53/51	55/53/51
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7	1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6	0.6
Dimension (WXHXD)	mm		343X525X270	343X525X270
Dimension of Carton Box (LXWXH)	mm		391X310X569	391X310X569
Dimension of Package (LXWXH)	mm		394X313X584	394X313X584
Application Area	m ²		22.4	28
Net Weight	kg		15.0	15.5
Gross Weight	kg		16.5	17.0
Refrigerant			R134a	R134a
Refrigerant Charge	kg		0.13	0.20
Bucket Capacity	L		4.0/4.6	4.0/4.6
Control Type			Electronic	Electronic
Evaporator	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	1-1.3	1-1.3
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Condenser	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	1-1.4	2-1.4
	Coil Length (LXDXW)	mm	235X12.7X190.5	235X12.7X190.5
Compressor	Compressor Manufacturer/Trademark		RECHI PRECISION CO.,LTD/ RECHI	RECHI PRECISION CO.,LTD/ RECHI
	Model		39E0G3HR&F^YA	39E0G3HR&F^YA
	Type		Rotary	Rotary
	Power Input	W		213
	Overload Protector			UP3-016
	L.R.A.	A		3.4
Working Current	A		1.2	1.4

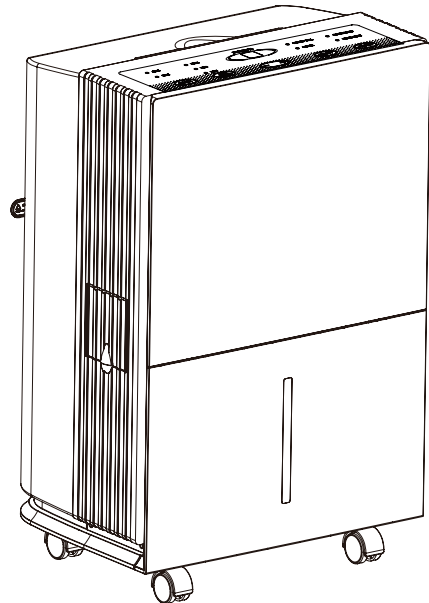
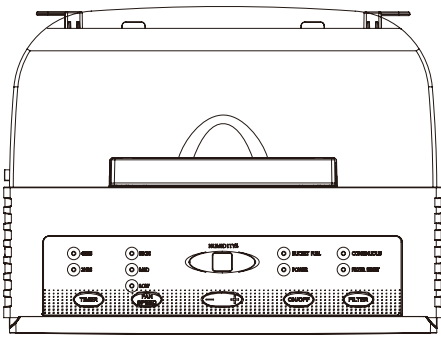
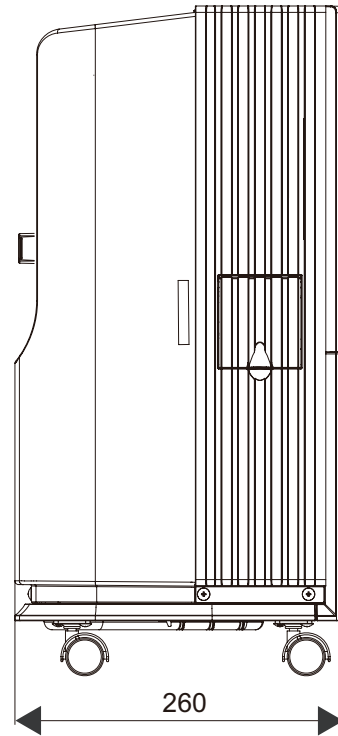
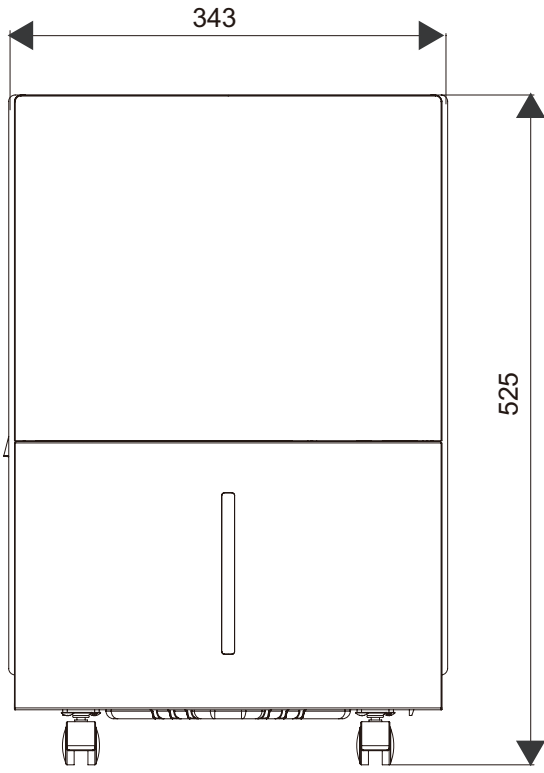
The above data is subject to change without notice; please refer to the nameplate of the unit.

Model			GDN24AH-K4EBB3C
Product Code			CK051025700
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Rated Dehumidification Capacity	L/h		0.50
Power Input	W		330
Current Input	A		1.50
Set Humidity Range	%		35~80
Air Flow Volume(H/M/L)	m ³ /h		180/160/140
Fan Motor Speed(H/M/L)	r/min		1150/1000/850
Fan Motor Power Output	W		10
Fan Motor RLA	A		0.16
Fan Motor Capacitor	μF		1.5
Fan Type			Centrifugal
Fan Diameter Length(DXL)	mm		Φ180X76.5
Throttling Method			Capillary
Fuse Current	A		3.15
Sound Pressure Level(H/M/L)	dB (A)		47/45/43
Sound Power Level(H/M/L)	dB (A)		57/55/53
Climate Type			T1
Isolation			I
Moisture Protection			IPX0
Permissible Excessive Operating Pressure for the Discharge Side	MPa		1.7
Permissible Excessive Operating Pressure for the Suction Side	MPa		0.6
Dimension (WXHXD)	mm		343X525X270
Dimension of Carton Box(LXWXH)	mm		391X310X569
Dimension of Package(LXWXH)	mm		394X313X584
Application Area	m ²		33.6
Net Weight	kg		16
Gross Weight	kg		17.5
Refrigerant			R134a
Refrigerant Charge	kg		0.24
Bucket Capacity	L		4.0/4.6
Control Type			Electronic
Evaporator	Evaporator Form		Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.3
	Evaporator Coil Length (LXDXW)	mm	235X25.4X190.5
Condenser	Condenser Form		Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (LXDXW)	mm	235X25.4X190.5
Compressor	Compressor Manufacturer		RECHI PRECISION CO.,LTD/RECHI
	Compressor Model		39E073HR&F^YA
	Compressor Type		Rotary
	Compressor Power Input	W	300
	Compressor Overload Protector		UP3-017
	Compressor LRA.	A	5.5
Compressor RLA	A	1.4	

The above data is subject to change without notice; please refer to the nameplate of the unit.

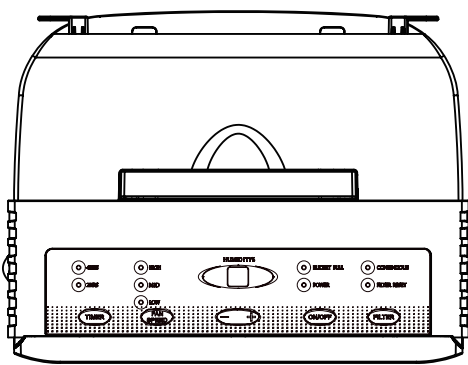
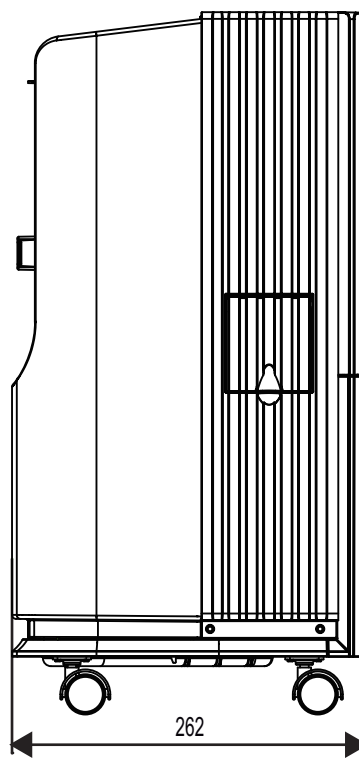
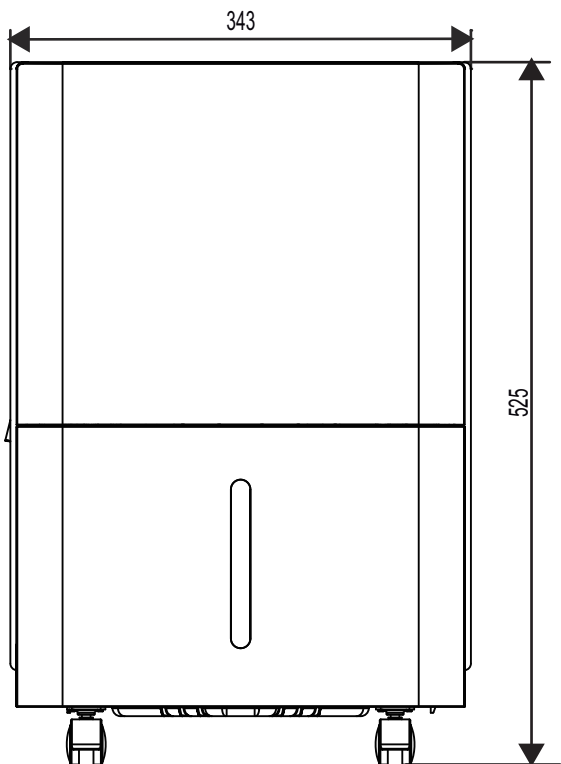
3.Outline Dimension Diagram

GDN10AH-K4EBB1C GDN12AH-K4EBB1C GDN16AH-K4EBB1C GDN20AH-K4EBB1C GDN24AH-K4EBB1C

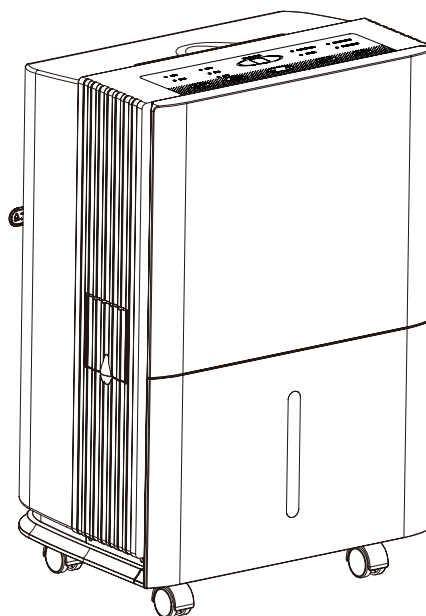


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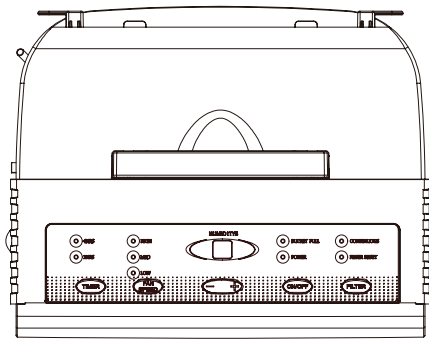
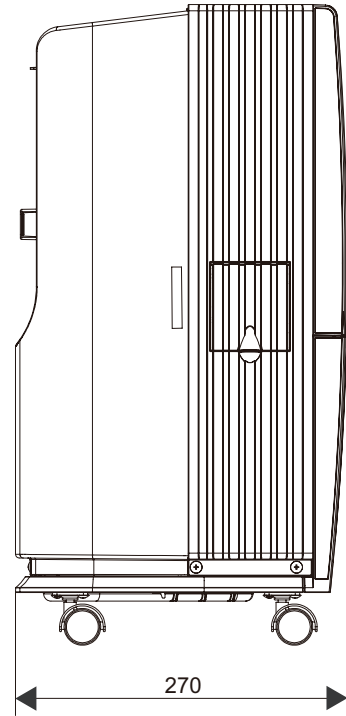
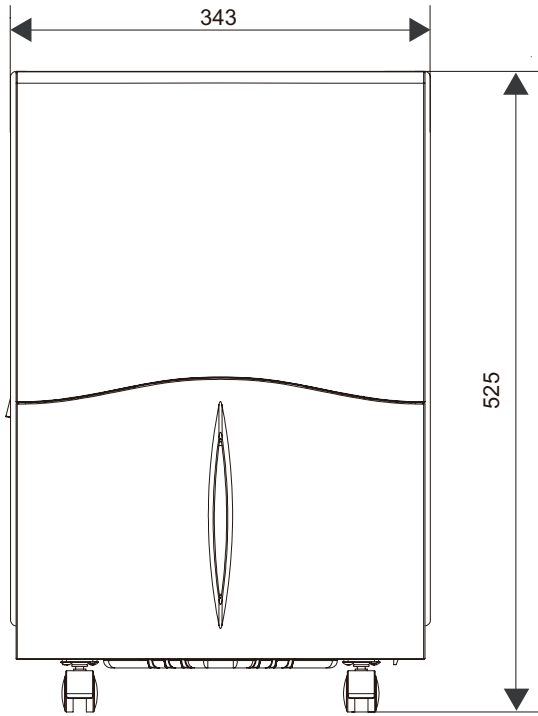
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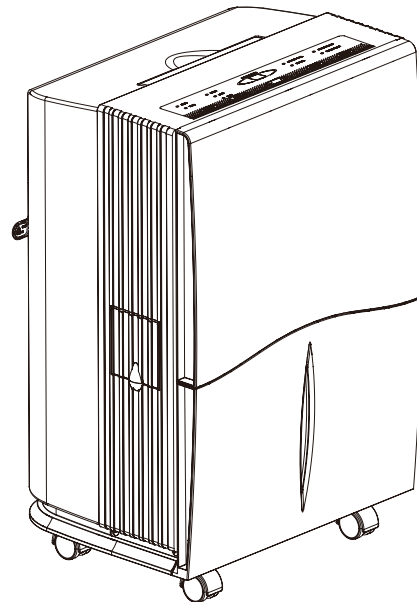
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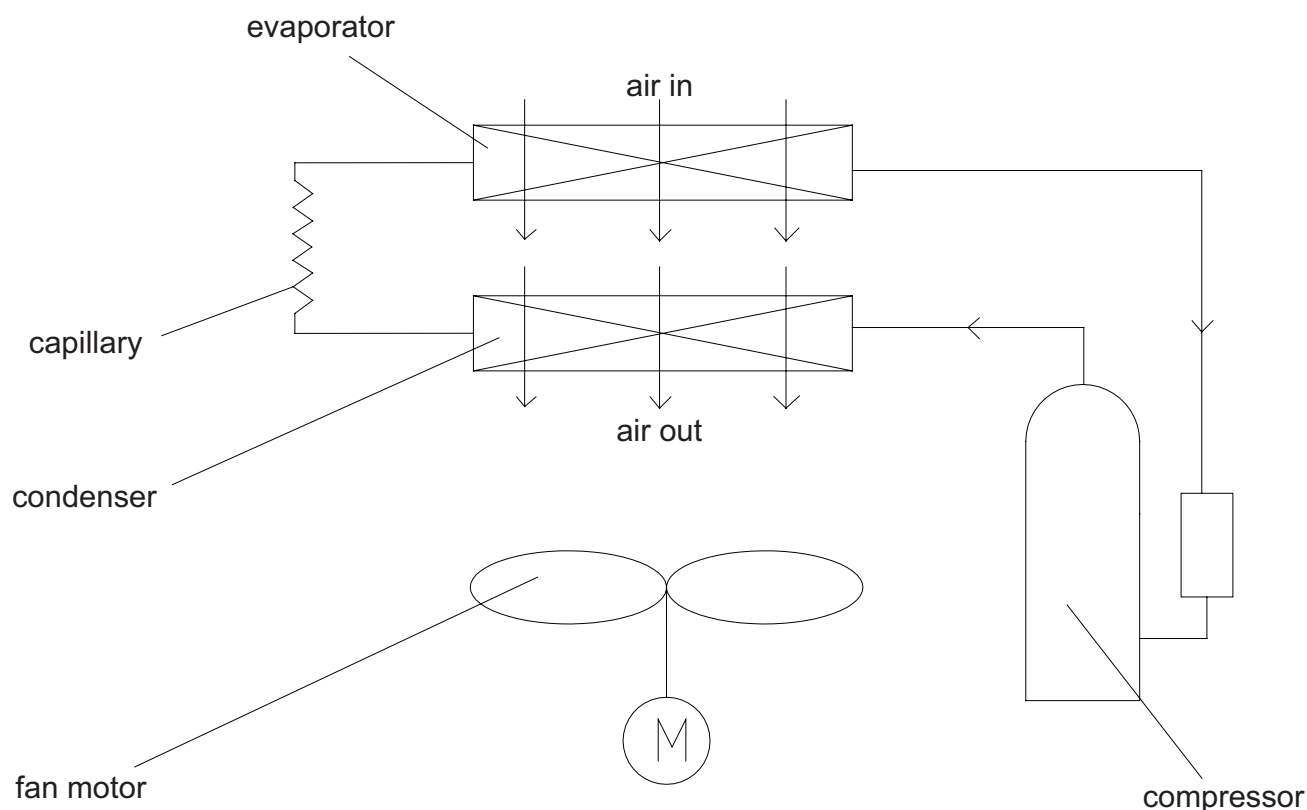
GDN10AH-K4EBB3C GDN12AH-K4EBB3C GDN16AH-K4EBB3C GDN20AH-K4EBB3C GDN24AH-K4EBB3C



unit:mm



4.Refrigerant System Diagram



Dehumidifying principle of dehumidifier:

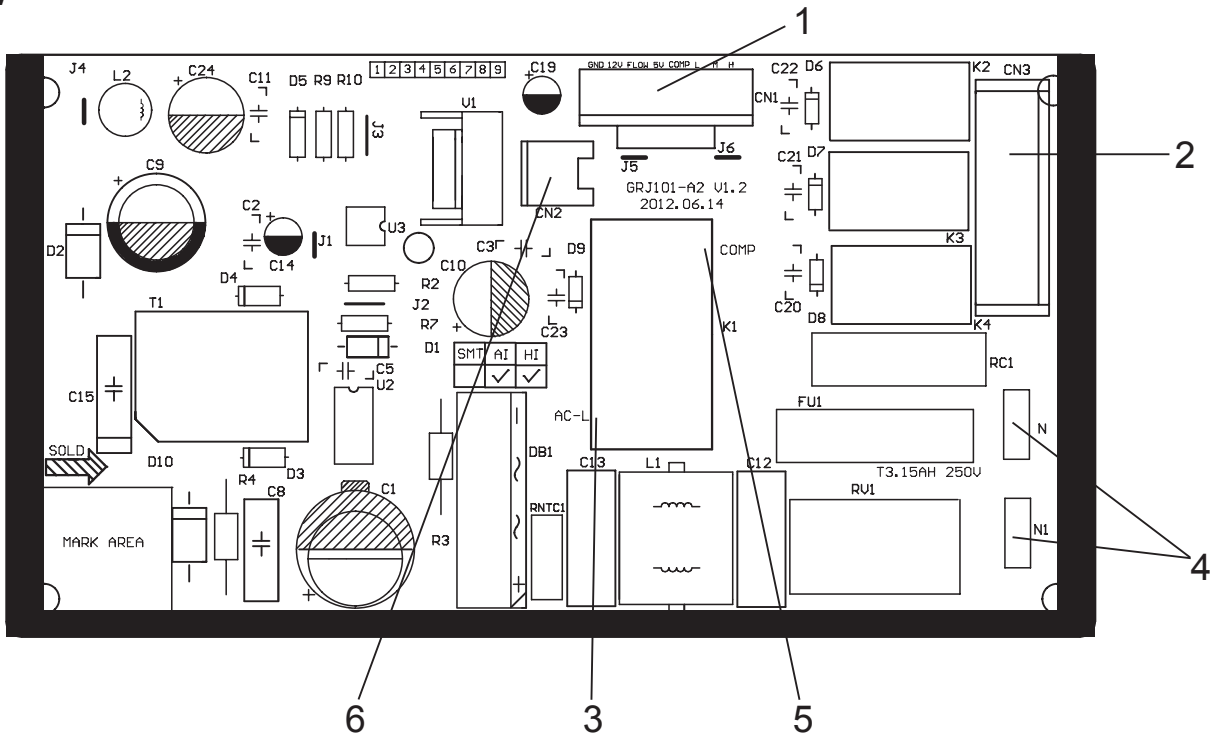
When temperature is decreased to the temperature point of dew, water vapor in humid air will condensate. Dehumidifier is dehumidifying the air by using this principle.

During operation of the system, air will pass through evaporator and condenser in turn and then be discharged due to centrifugal blade. When the air is passing through evaporator, refrigerant will absorb the heat in air to let its temperature decrease to the temperature point of dew, water vapor in air will condensate. Condensate water comes into water tank through water tray, or is discharged directly through drainage hose. The saturated low-temperature air passed through the evaporator will absorb the heat when flowing along the condenser, and then become the dry air. Under normal condition, the nearby air will become warm during operation of dehumidifier.

5.2 PCB Printed Diagram

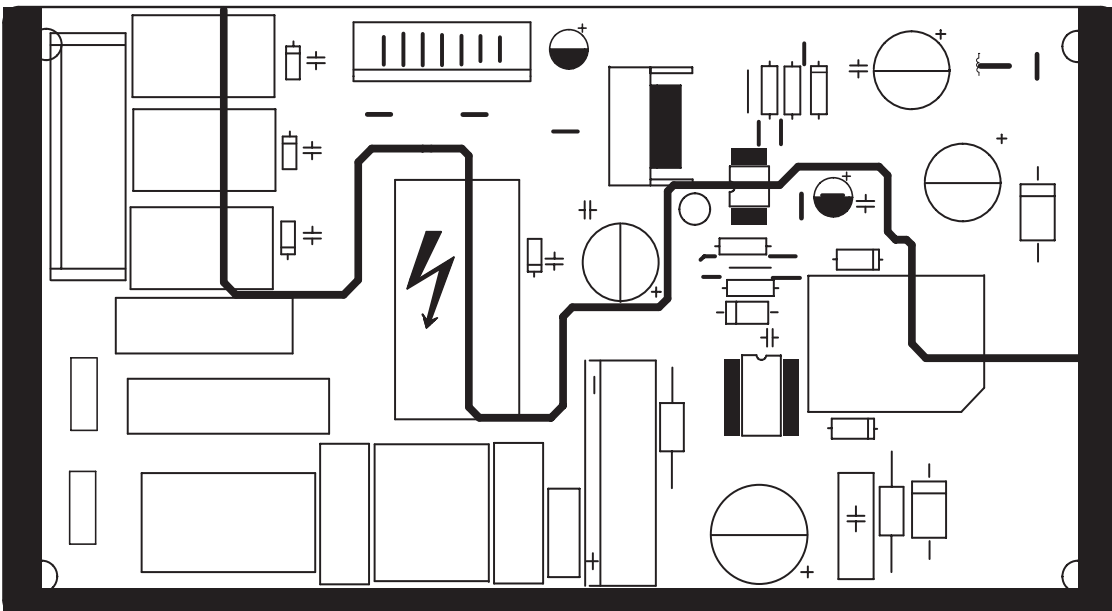
Silk Screen on Main Board

• Top view



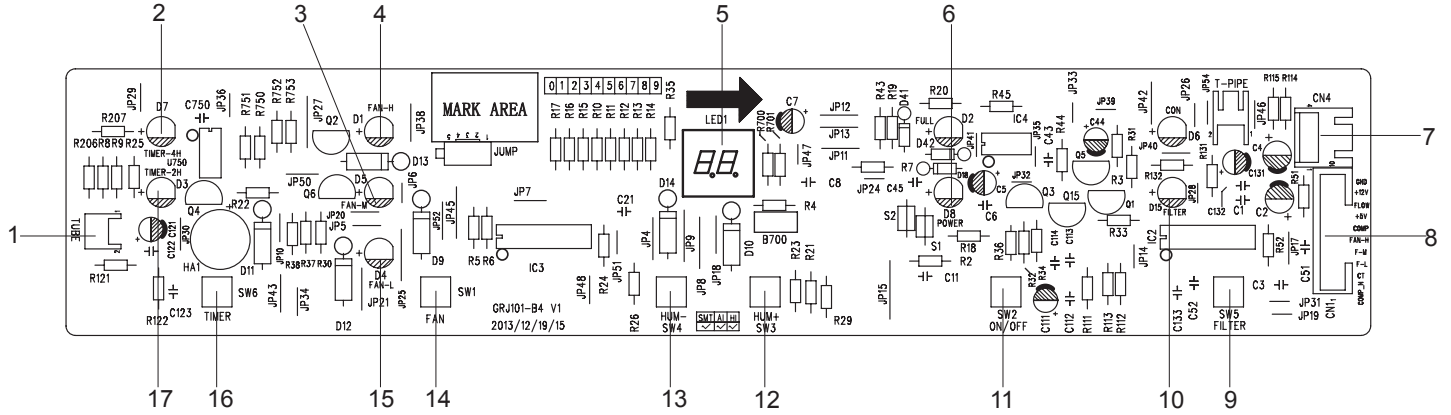
No.	Name	Description	No.	Name	Description
1	Needle stand of board connection wire	Connect to display board	4	Interface of neutral wire	Connect to neutral wire of commercial wire
2	Needle stand of fan	Connect to fan	5	Interface of compressor	Connect to compressor
3	Interface of live wire	Connect to live wire of commercial wire	6	Needle stand of water blow protection switch	Connect to water blow protection switch

• Bottom view



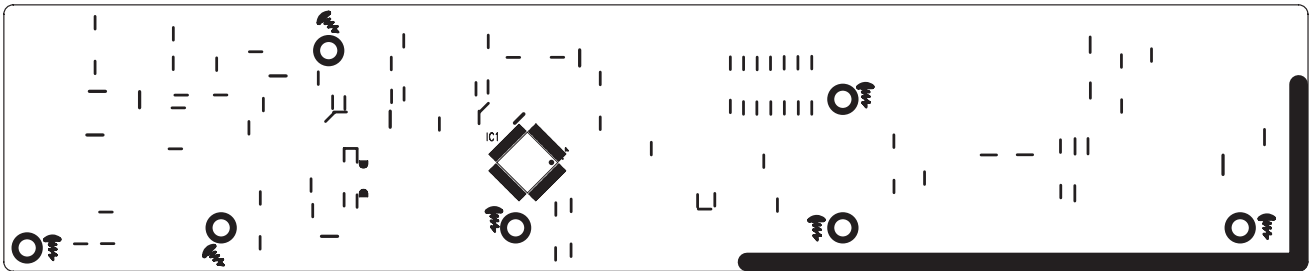
Silk Screen on Display Board

• Top view



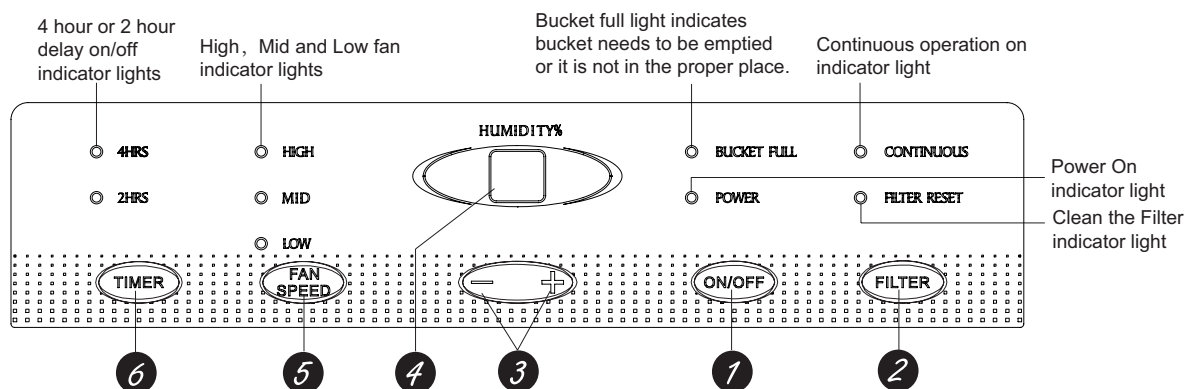
No.	Name	Description	No.	Name	Description
1	Needle stand of pipe temperature sensor	Connect to pipe temperature sensor	12	Set humidity button	Increase set humidity button
2	Timer 4H indicator	Timer 4H indicator is on	13	Set humidity button	Decrease set humidity button
3	Med fan step indicator	Med fan step indicator is on	14	Fan speed button	Preset fan speed button
4	High fan step indicator	High fan step indicator is on	15	Low fan step indicator	Low fan step indicator is on
5	Dual-8 digital display tube	Display ambient humidity or preset temperature	16	Timer button	Preset timer time button
6	Power supply indicator	Power supply indicator is on	17	Timer 2H indicator	Timer 2H indicator is on
7	Needle stand of humidity and ambient temperature sensor	Connect to humidity and ambient temperature sensor	/	/	/
8	Connection wire of board	Connect to mainboard	/	/	/
9	Filter reset button	Filter reset button	/	/	/
10	Remind indicator of cleaning filter	Remind indicator of cleaning filter is on	/	/	/
11	On/off button	On/off button	/	/	/

• Bottom view



6. Function and Control

6.1 Control Panel Instruction



1.ON/OFF Pad

Press to turn the dehumidifier on or off.

2.FILTER Pad

After 250 hours of operation, the Clean the Filter indicator light will glow to remind you to clean the filter. Remove the filter and clean it. Press to turn off the Clean the Filter light. See the Care and Cleaning section.

3.Humidity Set Control Pads

The humidity level can be set within a range of 80% RH (Relative Humidity) to 35% RH (Relative Humidity) in 5% reduce or at CO for continuous operation.

NOTE: If CO (Continuous) is selected, the dehumidifier will operate continuously at its maximum dehumidification settings if attached to a hose to drain or until the bucket is full.

For drier air, press the - pad and set to a lower percent value (%).

For damper air, press the + pad and set to a higher percent value (%).

When you first use the dehumidifier, set the humidity control to 45% or 50%. Allow at least 24 hours for the dehumidifier to achieve the humidity level. If you still have damper air than desired, set the humidity level to a lower setting or select Continuous for maximum dehumidification.

This unit has 3-min lag due to the device for protecting circuit. In order to prolong the compressors working life, the compressor will not start until the unit has run for 3 minutes.

4.Display

Shows the set % humidity level while setting, then shows the actual (+/- 5% accuracy) room % humidity level.

5.FAN SPEED Pad

Controls the fan speed. Press to select High or Mid or Low fan speed.

Set the fan control to High for maximum moisture removal. When the humidity has been reduced and quiet operation is preferred, set the fan control to Mid or Low.

6.TIMER Pad

If unit is turned on and running in timer mode for 2hr or 4hr, can turn off the unit. When unit stand by and running in timer mode for 2hr or 4hr can turn on the unit.

Other Features

BUCKET FULL Light

Glow when the bucket is ready to be emptied, or when the bucket is removed or not replaced in the proper position.

Alarm

If the bucket is full or missing for more than three minutes, an alarm will sound for about 10 seconds to remind you to empty and replace the bucket.

Auto Shut Off

The Water Level Control Switch shuts off the dehumidifier when the bucket is full, or when the bucket is removed or not replaced in the proper position.

Auto Defrost

When frost builds up on the evaporator coils, the compressor will cycle off and the fan will continue to run until the frost disappears.

Power Outage

In the case of a power outage or interruption, the unit will automatically re-start, in the settings last used, after the power is restored.

6.2 Introduction of Basic Mode Function

1. Basic Function

1) Dry conditions and process

- When $HUMIDITY_{preset} \leq HUMIDITY_{amb.} - 5\%$, compressor and fan will run.
- When $HUMIDITY_{preset} \geq HUMIDITY_{amb.} + 5\%$, compressor stop to run and fan will stop operation after 3min.
- When $DEHUMIDITY_{amb.} - 5\% < HUMIDITY_{preset} < HUMIDITY_{amb.} + 5\%$, when compressor is operation, it will run with condition a; when compressor stops, it will run with condition b. If under this condition when the unit is on, the compressor is off and fan will stop to run after 3min delay.

2) Humidity Range

- 5% is one step, it can be adjusted continuously from CO, 35%-80% (CO stands for dehumidify continuously).
- Adjust preset temperature by "+" and "-".

2. Protection Function

(1) Working temperature range

- Detect the unit after energized, when $2\text{ }^{\circ}\text{C} \leq T_{amb.} \leq 45\text{ }^{\circ}\text{C}$, the unit is running normally; when $T_{amb.} < 2\text{ }^{\circ}\text{C}$ or $T_{amb.} > 45\text{ }^{\circ}\text{C}$, the compressor stops, and fan will run with the detected temperature humidity;
- During operation, when $T_{amb.} < 2\text{ }^{\circ}\text{C}$ or $T_{amb.} > 45\text{ }^{\circ}\text{C}$, the compressor stops, and fan will run with the detected temperature humidity; when $2\text{ }^{\circ}\text{C} \leq T_{amb.} \leq 45\text{ }^{\circ}\text{C}$, the compressor will be started up.

(2) Compressor Protection

- After energization, under any situation and after compressor stops, it will restart 3min delay at least.
- Under operation state except temperature sensor malfunction, on/off button, water-blow protection, after compressor starts up, it will stop after it runs for 3min at least.

(3) Detection for temperature sensor malfunction (Temperature sensor malfunction is AD value ≤ 5 or $250 \leq \text{AD value}$)

- When the unit is energized, it is detected that the ambient temperature sensor is open or short circuit for 30s, compressor and fan stops, LED indicator is off, buttons are invalid, and nixie tube displays "F1".
- It is detected that the pipe temperature sensor is open or short circuit for 30s, compressor and fan stops, LED indicator is off, buttons are invalid, and nixie tube displays "F2".
- When it detected that the humidity sensor is short-circuited for 30s successively, compressor and fan will stop operation. Meanwhile, LED will be off, buttons are invalid and dual-8 nixie tube will display L1.
- When theres multiple malfunctions, the error codes will be displayed in turn.

(4) Water blow protection (off switch)

- The water blow protection will be occurred when the water level of water tank is exceeded. After water blow protection, compressor stops and fan stops after 3mins. If water blow protection occurred for 3min, the buzzer will stop after it gives out a beep for 10s, indicator of water blow will blinks and all the buttons are invalid. When the water level or assembly of water tank resume to normal, signal of water blow protection will cancelled, indicator is off, buzzer stops to give out a beep and resume to normal operation state.
- When the unit is off, water blow protection is occurred, water blow indicator blinks, compressor and fan stops, all the buttons are invalid except on/off buttons. When the unit is on, water blow indicator blinks, buzzer will not give out a beep, compressor and fan stops.

3. Other Functions

(1) Power-off memory

Upon power failure, the unit after power recovery will automatically start to run according to memory content.

(2) Nixie tube display

- When the unit is running, it will display current humidity, preset temperature will be adjusted by "+" or "-", it will resume current humidity after the set is finished for 5s.
- Under any situation and the temperature sensor is malfunction, nixie tube displays "F1", "F2" or "L1", timer lamp, continuous humidity lamp, fan speed lamp and filter lamp will not display.

(3) Front panel button

On/off : turn on/off the unit

Timer: use for timer setting

+: Adjust humidity

-: Adjust humidity

Fan speed: adjust fan speed

Filter: adjust filter function

(4) LED indicator

Continuous humidity lamp: "CON" lamp is on, nixie tube display "CO";

Power supply indicator: it is on after the unit is energized;

2H timer lamp: the lamp is on after setting 2H timer;

4H timer lamp: the lamp is on after setting 4H timer;

High fan speed indicator: the lamp is on after setting fan is in high speed.

Med fan speed indicator: the lamp is on after setting fan is in med speed.

Low fan speed indicator: the lamp is on after setting fan is in low speed.

Installation and Maintenance ● ● ● ● ● ● ● ● ● ● ● ● ●

Filter cleaning lamp: the lamp is on when the operation time of fan reaches to 250h totally.

Water blow protection lamp: the lamp blinks if water blow protection is occurred.

(5) Timer control

2h or 4h timer can be set, set timer off when the unit is on, set timer on when the unit is off. The buzzer will not give out a beep after timer time reaches. Timer time is every 30min which recorded by memory function (read-in memory slug).

(6) Buzzer

When the controller is energized or receives any command or signal from the buttons or the remote controller, the buzzer will give out a beep.

(7) Filter alarm function

a. After fan runs for 250h totally, filter lamp is on to remind customer clean filter.

b. When the unit is off, the filter lamp is off; the filter time can not be clearance when the unit is off.

Part II : Maintenance

7. Notes Maintenance

Safety Precautions: Important!

Please read the safety precautions carefully before maintenance:

The following contents are very important for installation and maintenance.

Please follow the instructions below.

- The maintenance must accord with the instructions.
- Comply with all national electrical codes and local electrical codes.
- Pay attention to the warnings and cautions in this manual.
- Be caution during maintenance. Prohibit incorrect operation to prevent electric shock and other accidents.



Warnings

Electrical Safety Precautions:

1. Cut off the power supply before maintenance.
2. Specialized circuit must be applied; prohibit sharing the same circuit with other electric appliances; protection switch must be installed.
3. Have the unit adequately grounded. The grounding wire cant be used for other purposes.
4. The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the dehumidifier.
5. The power cord cant be pressed by hard objects.
6. If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.
7. Replace the fuse with a new one of the same specification if it is burnt down; dont replace it with a cooper wire or conducting wire.
8. Use the power supply with same voltage and frequency as shown in rating label.
9. Do not pull out the power plug when the unit is operating to avoid damaging the circuit.
10. Do not place anything at the top of dehumidifier; ensure the air outlet or air inlet is not blocked; do not use the unit near wall and curtain.
11. Do not use heating equipment around the unit.

Refrigerant Safety Precautions:

1. Avoid contact between refrigerant and fire as it generates poisonous gas. Recycle the refrigerant inside the unit completely before welding pipes.
2. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.
3. If refrigerant is leaking seriously, it may cause suffocation or explosion. When using the combustible refrigerant, please put the unit at ventilated place.
4. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.

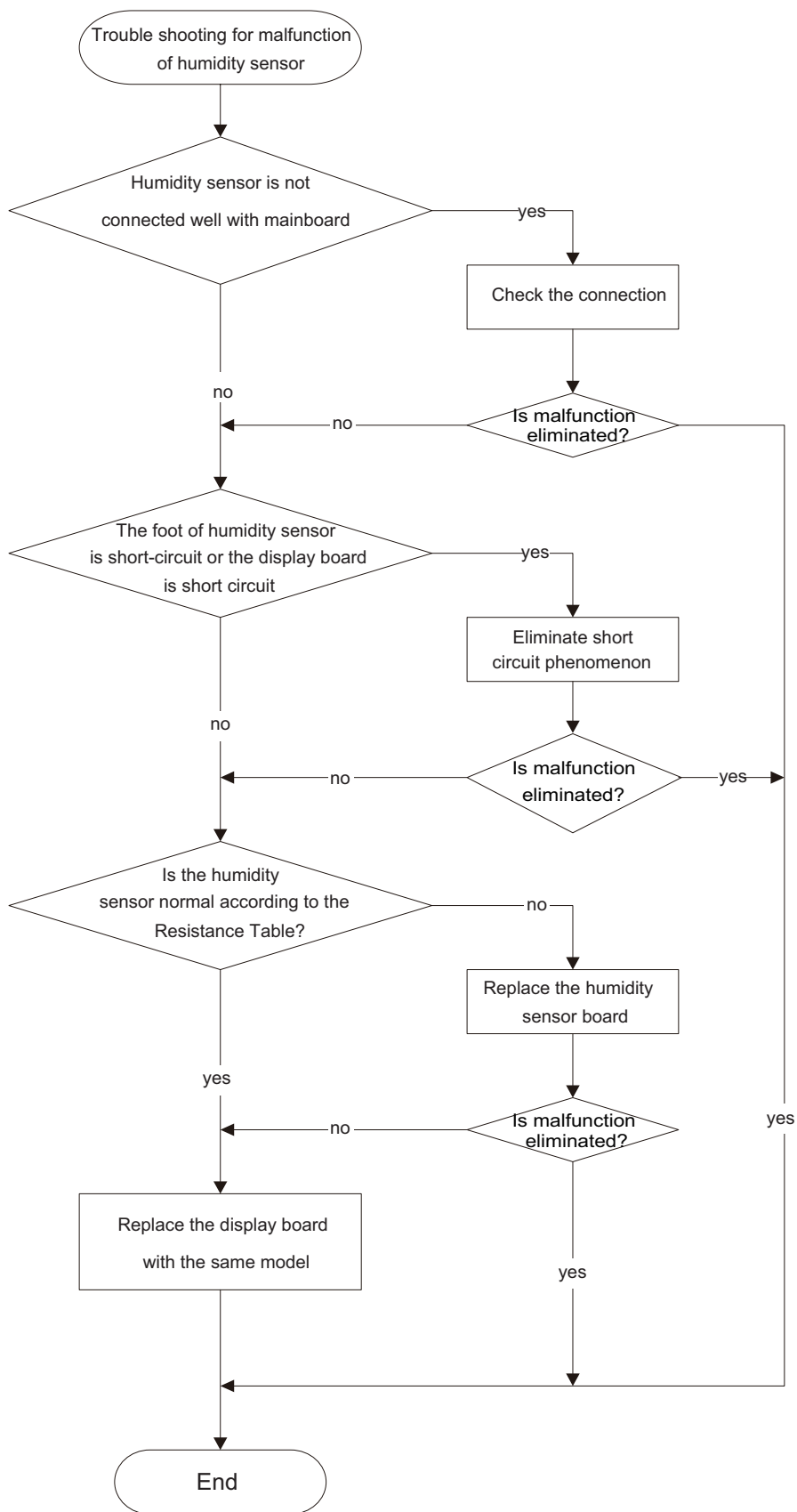
Improper installation may lead to fire hazard explosion, electric shock or injury.

8.Maintenance

8.1 Error Code

No.	Malfunction Name	Nixie tube display	Unit status	Possible Causes
1	Malfunction of ambient temp. sensor	F1	The compressor and fan stop; buttons are invalid	1. The wiring terminal between ambient temperature sensor and main board is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor); 4. Main board is broken.
2	Malfunction of tube temp. sensor	F2		1. The wiring terminal between evaporator temperature sensor and main board is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor); 4. Main board is broken.
3	Malfunction of humidity sensor	L1		1. Humidity sensor is short-circuit; 2. Humidity sensor is broken; 3. Display board is broken.
4	Freon-lacking protection	F0	The compressor stop	1. Refrigerant is leaking 2. System is blocked

2.Malfunction of humidity sensor L1



8.3 Maintenance Method for Common Malfunction

1.The Unit Cant Start Up

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isnt bright and the buzzer cant give out sound	Confirm whether its due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Poor connection between wiring terminals	Power indicator is not on after the unit is energized	Check the circuit according to wiring diagram and connect wire properly; ensure each wiring terminal contact firmly
There is electric leakage in the unit	Circuit breaker jump off immediately after the unit is energized	Make sure the unit is properly grounded; Make sure the wiring is correct; Check if the insulating layer of wires inside the unit and power cord is in good condition; if the layer is broken, please replace it.
Placing position of water tank is not correct. Water is removed or the water is full.	Wall-full indicator flashes.	Make sure the water tank is placed correctly.

2. Poor Dehumidifying Effect

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Set humidity is irrational	Observe the displayed set humidity	Adjust set humidity
Filter is blocked	Check the filter to see its blocked	Clean the filter
Placing position of water tank is improper.	Check whether therere obstacles around the dehumidifier blocked the air outlet.	Make sure therere no obstacles around the dehumidifiers.
Refrigerant is leaking	Air outlet temperature is lower than normal temperature during dehumidifying period.	Find out the cause of leakage and solve the problem; charge refrigerant
Malfunction of capillary	Air outlet temperature is lower than normal temperature during dehumidifying period. If the refrigerant isnt leaking, some parts of capillary is blocked.	Replace capillary
Malfunction of fan	Fan cant operate.	Refer to point 3 of maintenance method for details
Malfunction of compressor	Compressor cant operate	Refer to point 4 of maintenance method for details

3.Fan Cant Operate

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Needle stand of connection wire between mainboard and display board is loosened	Check if the needle stand is loosened	Reinsert the needle stand firmly
Fan capacitor is broken	Test the voltage between two ends of fan capacitor with universal meter and the value is 0	Replace fan capacitor
Power supply voltage is too low or too high	Test the power supply voltage with universal meter and the value is too high or too low	Apply voltage regulator
Fan is broken	The above situation is normal but the fan does not operate	Repair or replace the fan

4. Compressor Cant Operate

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Compressor relay on the mainboard is broken or the compressor needle stand is loosened	Check if the relay is sucked in cooling mode	Replace the mainboard with the same model
Capacity of compressor is damaged	After tuning on the unit, the unit cant dehumidify. Use universal meter to measure the resistance value of two contact points of capacitor. If the resistance value is too big or 0, the capacitor is damaged.	Replace the compressor
Power voltage is a little low or high	After turning on the unit, dehumidifying effect is poor or compressor is turned on or off frequently. Use universal meter to measure the power supply voltage directly	The fluctuation of voltage is 10% rated power. If the power is too low or too high, you are suggested to equip wit voltage regulator.
Coil of compressor is burnt out	There is no dehumidifying effect after turning on the unit; test the resistance of the wiring poles of compressor with universal meter; if the resistance is infinite or zero, it means it is broken	Repair or replace compressor
Cylinder of compressor is blocked	The dehumidifying effect is poor after turning on the unit; the noise of compressor is big and the compressor is hot	Repair or replace compressor

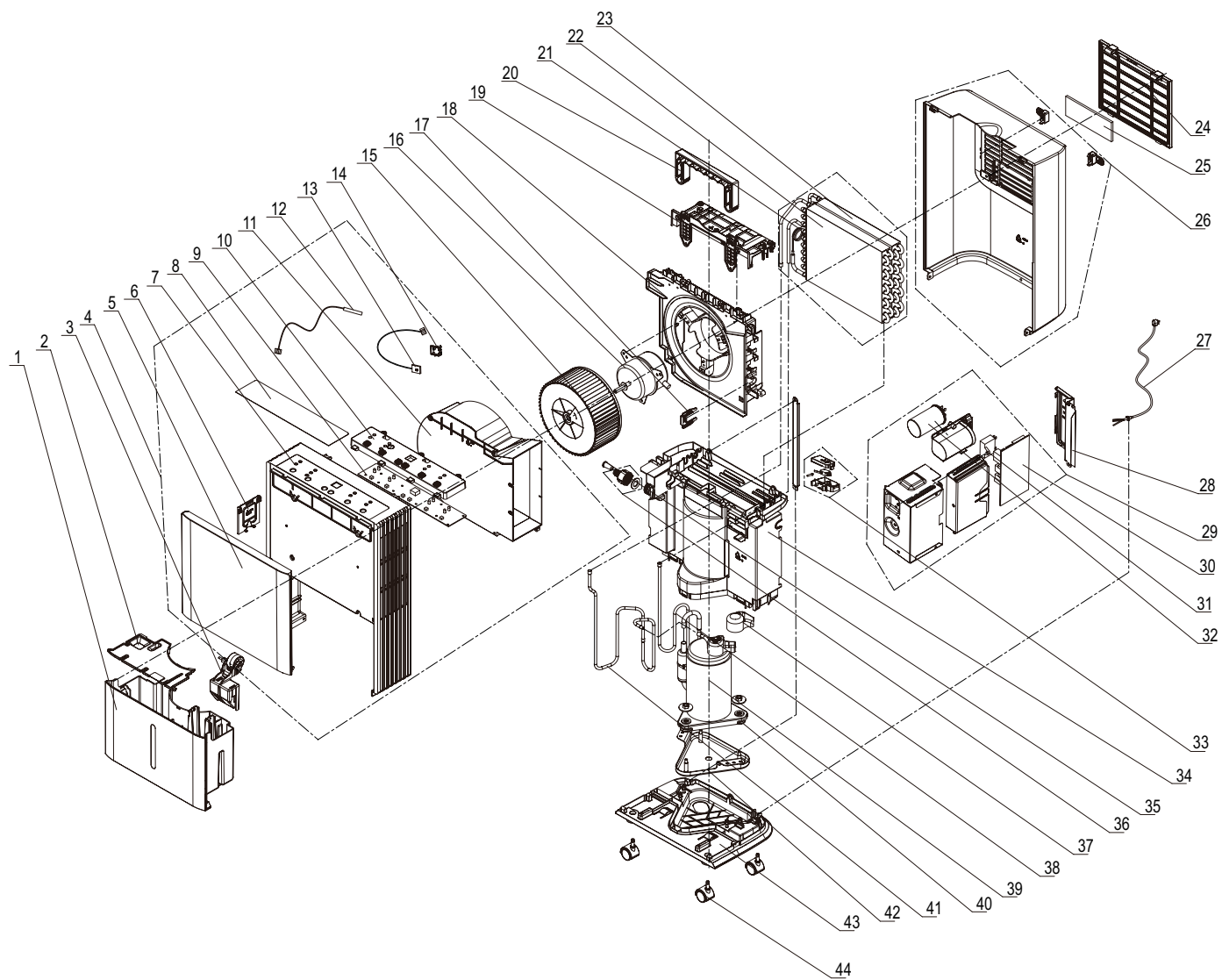
5. Water Leakage

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Drainage pipe hasnt been installed correctly.	Water is coming out from indoors.	Eliminate the blocking objects inside the drainage channel.

6. Abnormal Sounds and Vibration

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
There is abnormal sound in some parts when just turning on or turning off the unit	Theres the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
There is abnormal sound of refrigerant flowing when just turning on or turning off the unit	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
There is touching sound of foreign objects or parts inside the unit	The unit gives out abnormal sound	Take out the foreign objects; adjust the position of each part inside the unit; tighten the connection screws; apply some damping gum on the touching parts
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

9. Exploded View and Parts List



No.	Description	Part Code		Qty
		GDN10AH-K4EBB1C	GDN12AH-K4EBB1C	
		Product code	Product code	
1	Water Tank Assy	20186542	20186542	1
2	Water Tank Cover	22246087	22246087	1
3	Float meter sub-assy	26116528	26116528	1
4	Shield Assy (Electric)	00004200016	00004200016	1
5	Front Panel	20006091S	20006091S	1
6	Cover of Waterspout	22246079	22246079	1
7	Front Case	22206521	22206521	1
8	Membrane	63066044	63066044	1
9	Display Board	30561066	30561066	1
10	LCD Cover	20126114	20126114	1
11	Diversion Circle	10376042	10376042	1
12	Temperature Sensor	390000592	390000592	1
13	Detecting Plate	30070018	30070018	1
14	Support(Sensor)	24216025	24216025	1
15	Centrifugal Fan	10316055	10316055	1
16	Fan Motor	1501605102	1501605102	1
17	Wire Clamp	26116069	26116069	1
18	Motor Support	24216094	24216094	1
19	Cover Plate	20126179	20126179	1
20	Handle	26236023	26236023	1
21	Capillary Sub-assy	03000600360	03000600355	1
22	Condenser Sub-Assy	01136037	01136038	1
23	Evaporator Sub-Assy	01036036	01036037	1
24	Filter Sub-Assy	11126522	11126522	1
25	Filter	11126512	11126512	1
26	Rear Case Sub-assy	00013500003	00013500003	1
27	Power Cord	4002028601	4002028601	1
28	Electric Box Cover	01256025	01256025	1
29	Electric Box Assy	10000201806	10000201806	1
30	Main Board	30131454	30131454	1
31	Capacitor CBB61	3300002237	3300002237	1
32	Capacitor	3301074716	3301074716	1
33	Liquid Level Switch Sub-assy	45016014	45016014	1
34	Water Tray	20186159	20186159	1
35	Rubber Plug(Water Tray)	76716507	76716507	1
36	Drainage Joint Sub-assy	06126012	06126012	1
37	Covering Plate	01225600003A	01225600003A	1
38	Inhalation Tube Sub-assy	03001000274	03001000274	1
39	Compressor and Fittings	00106107	00106107	1
40	Compressor Gasket	76710308	76710308	3
41	Discharge Tube Sub-assy	03001300267	03001300267	1
42	Support Sub-assy	01702700007P	01702700007P	1
43	Chassis	22226066	22226066	1
44	Castor	24236053	24236053	4

Above data is subject to change without notice.