Haier

Service Manual

Commercial Air Conditioning

Duct type

HDU-42H03/M (AD42NAMACA+AU42NAPAGA) HDU-42HA03/M(R1)(AD42NAMBAA+AU42NAPBAA)

HDU-42C03/M (AD42NAMMAA+AU42NAPMAA) HDU-36HA03/M(R1)(AD36NAMBAA+AU36NAPBAA)

HDU-28H03/M (AD282AMACA+AU282ANAFA) HDU-28HA03/M(R1)(AD28NAMBAA+AU28NANBAA)

HDU-28C03/M (AD282AMMAA+AU282ANMAA)

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Features

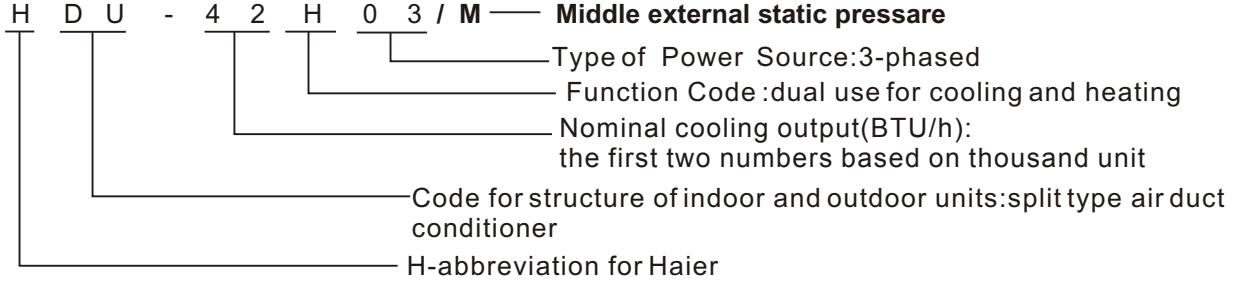
- Wired Remote Control
- Flexible setting of the air outlet
- Super-silence design
- Remote network control for thousands miles

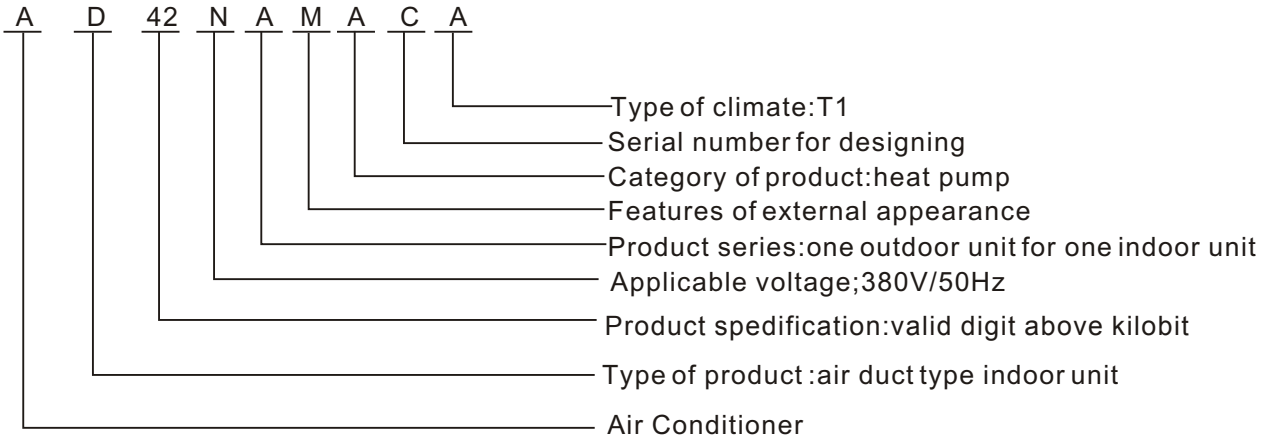
Haier Group

2002.2.

1. Description of Product Codes and Brief Introduction to Series of Products

a). Description of Model Coding





b)Table 1

No.	Operating Mode	Indoor Operating Mode		Outdoor Operating Mode	
		Temp.（℃）	Humidity	Temp.（℃）	Humidity
1	Nominal Cooling	DB:27	WB:19	DB:35	WB:24
2	Nominal Heating	DB:20	WB:15	DB:7	WB:6

c)Brief Introduction to Series of Products

i)Seriation of products:

The following air duct type air conditioners are now available for export:

HDU-42H03/M HDU-42C03/M HDU-42HA03/M(R1) HDU-28H03/M HDU-28C03/M HDU-36HA03/M(R1) HDU-28HA03/M(R1)

ii)Features of Products:

Totally concealed machine body

All the machine body is to be installed inside the ceiling, having no effect on the beauty of the room and without taking any room space.

Air intake via the rear air intake duct

This new design has changed the former unique pattern of air intake, and a larger distance between air intake and air return cycles as well as better air quality can be achieved.

Flexible and easier installation

The machine body is to be installed in a totally concealed way,its fan system has a longer distance coverage so as to supply its airflow to several rooms, and the indoor unit may be installed inside the ceiling of a room or corridor. The installation is simple and flexible, and there is no need to have specified personnel for management, thus cutting down the expenses; the machine is lighter and smaller, and convenient for installation, it takes an extremely small building space, thus lower the construction cost; the indoor unit is to be concealed inside the ceiling, and hence the usable space can be saved and the room decoration will not be affected.

d. Brief Introduction for T1 、T2、T3 working condition

Type of Air Conditioner	Climate type		
	T1	T2	T3
Cool only	18℃～43℃	10℃～35℃	21℃～52℃
Heat pump	-7℃～43℃	-7℃～35℃	-7℃～52℃
Electricity heating	～43℃	～35℃	～52℃

2. Products technical parameters

Type	HDU-42C03/M	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	42000 BTU/h	Heat producing capacity	————
Cold producing coefficient	8.75	Heat producing coefficient	————
Cold producing power	4800 W	Heat producing power	————
Defrosting capacity	5.0×10^{-3} m^3/h	Ratio of energy generating to consuming	2.56
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	380~400 V	Operating current scope	7.82-9.5 A
Operating temperature scope	18~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R22
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	42/36/30 dB(A)	Outdoor unit noises (cold producing)	64 dB(A)
Indoor unit noises (heat producing)	————	Outdoor unit noises (heat producing)	————
External dimension of indoor unit	1410×645×350 mm	External dimension of outdoor unit	948×340×1225 mm
Package dimension of indoor unit	1557×800×370 mm	Package dimension of outdoor unit	1050×440×1375 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	55/75 kg	Net weight/gross weight of outdoor unit	85/111 kg
Maximum installation fall	30 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	3.07 kg	Maximum infusing quantity of refrigerant	5.77 kg
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	H23A62QDBE	Manufacturer of air compressor	Bristol
Oil inpouring volume to air compressor	1628 cc	Type of air compressor protector	————
Cut off valve type	Φ9.52/Φ19.05	Four-way valve type	————
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：3 enter，3 go Condensator：5 enter，5 go	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.338 m^2	Total area of condensator	0.92 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：651/1 Outdoor：902/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	————
Rotating speed of air fan	Indoor：(odd)1050/960/870r/min (Two)980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/3 Outdoor unit：axial flow type/2
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	0.9 MPa
Indoor hygrometer temperature	32/23℃	Outdoor hygrometer temperature	43/26℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-42HA03/M(R1)	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	42000 BTU/h	Heat producing capacity	46000BTU/h
Cold producing coefficient	8.4BTU/W	Heat producing coefficient	8.85BTU/W
Cold producing power	5000 W	Heat producing power	5200 W
Defrosting capacity	5.0×10^{-3} m^3/h	Ratio of energy generating to consuming	----------
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	380~400 V	Operating current scope	7.82-9.5 A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R407C
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	42/36/30 dB(A)	Outdoor unit noises (cold producing)	64 dB(A)
Indoor unit noises (heat producing)	————	Outdoor unit noises (heat producing)	————
External dimension of indoor unit	1410×645×350 mm	External dimension of outdoor unit	948×340×1225 mm
Package dimension of indoor unit	1557×800×370 mm	Package dimension of outdoor unit	1050×440×1375 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	55/75 kg	Net weight/gross weight of outdoor unit	91/111 kg
Maximum installation fall	30 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	3.8 kg	Maximum infusing quantity of refrigerant	---------
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	C-SBN373H8A	Manufacturer of air compressor	SANYO
Oil inpouring volume to air compressor	1700ml	Type of air compressor protector	————
Cut off valve type	Φ9.52/Φ19.05	Four-way valve type	————
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：3 enter，3 go Condensator：5 enter，5 go	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.338 m^2	Total area of condensator	0.92 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：651/1 Outdoor：902/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	————
Rotating speed of air fan	Indoor：(odd)1050/960/870r/min (Two)980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/3 Outdoor unit：axial flow type/2
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	2.8MPa
Indoor hygrometer temperature	32/23℃	Outdoor hygrometer temperature	43/26℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-42H03/M	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	42000 BTU/h	Heat producing capacity	46000 BTU/h
Cold producing coefficient	8.75	Heat producing coefficient	9.9
Cold producing power	4800 W	Heat producing power	4700 W
Defrosting capacity	5.0×10^{-3} m^3/h	Ratio of energy generating to consuming	2.56/2.87
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	380~400 V	Operating current scope	7.82-9.5 A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R22
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	42/36/30 dB(A)	Outdoor unit noises (cold producing)	64 dB(A)
Indoor unit noises (heat producing)	42/36/30 dB(A)	Outdoor unit noises (heat producing)	64 dB(A)
External dimension of indoor unit	1410×645×350 mm	External dimension of outdoor unit	948×340×1225 mm
Package dimension of indoor unit	1557×800×370 mm	Package dimension of outdoor unit	1050×440×1375 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	55/75 kg	Net weight/gross weight of outdoor unit	91/111 kg
Maximum installation fall	30 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	3.52 kg	Maximum infusing quantity of refrigerant	6.22 kg
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	H23A62QDBE	Manufacturer of air compressor	Bristol
Oil inpouring volume to air compressor	1628 cc	Type of air compressor protector	————
Cut off valve type	Φ9.52/Φ19.05	Four-way valve type	STF-0401
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：3 enter，3 go Condensator：5 enter，5 go	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.338 m^2	Total area of condensator	0.92 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：651/1 Outdoor：902/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	3.65 L
Rotating speed of air fan	Indoor：(odd)1050/960/870r/min (Two)980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/3 Outdoor unit：axial flow type/2
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	2.8 MPa
Indoor hygrometer temperature	Cold producing：27/19℃ Heat producing：20/—℃	Outdoor hygrometer temperature	Cold producing：35/24℃ Heat producing：7/6℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-36HA03/M(R1)	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	36000 BTU/h	Heat producing capacity	38000BTU/h
Cold producing coefficient	2.8W/W	Heat producing coefficient	2.9W/W
Cold producing power	3800 W	Heat producing power	3800 W
Defrosting capacity	5.0×10^{-3} m^3/h	Ratio of energy generating to consuming	----------
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	380~400 V	Operating current scope	7.82-9.5 A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R407C
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	42/36/30 dB(A)	Outdoor unit noises (cold producing)	64 dB(A)
Indoor unit noises (heat producing)	————	Outdoor unit noises (heat producing)	————
External dimension of indoor unit	1410×645×350 mm	External dimension of outdoor unit	948×340×1225 mm
Package dimension of indoor unit	1557×800×370 mm	Package dimension of outdoor unit	1050×440×1375 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	55/75 kg	Net weight/gross weight of outdoor unit	91/111 kg
Maximum installation fall	30 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	3.8 kg	Maximum infusing quantity of refrigerant	---------
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	C-SBN373H8A	Manufacturer of air compressor	SANYO
Oil inpouring volume to air compressor	1700ml	Type of air compressor protector	————
Cut off valve type	Φ9.52/Φ19.05	Four-way valve type	————
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：3 enter，3 go Condensator：5 enter，5 go	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.338 m^2	Total area of condensator	0.92 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：651/1 Outdoor：902/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	————
Rotating speed of air fan	Indoor：(odd)1050/960/870r/min (Two)980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/3 Outdoor unit：axial flow type/2
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	2.8MPa
Indoor hygrometer temperature	32/23℃	Outdoor hygrometer temperature	43/26℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-28C03/M	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	28000 BTU/h	Heat producing capacity	————
Cold producing coefficient	6.8	Heat producing coefficient	————
Cold producing power	2600 W	Heat producing power	————
Defrosting capacity	3.0×10^{-3} m^3/h	Ratio of energy generating to consuming	3.16
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	220~230 V	Operating current scope	11.05-16.5A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R22
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	35/32/29 dB(A)	Outdoor unit noises (cold producing)	58 dB(A)
Indoor unit noises (heat producing)	————	Outdoor unit noises (heat producing)	————
External dimension of indoor unit	990×650×300 mm	External dimension of outdoor unit	948×340×830 mm
Package dimension of indoor unit	1137×800×320 mm	Package dimension of outdoor unit	1050×440×979 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	40/57 kg	Net weight/gross weight of outdoor unit	70/89 kg
Maximum installation fall	15 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	2.2 kg	Maximum infusing quantity of refrigerant	3.7 kg
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	ZR34K3-PFJ-522	Manufacturer of air compressor	Copeland Compressor Inc.of USA
Oil inpouring volume to air compressor	1247 cc	Type of air compressor protector	32HM50-63,Dezhou Instrument Factory
Cut off valve type	Φ9.52/Φ15.88	Four-way valve type	————
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	30 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：6 enter，6 return Condensator：10 enter,10 return	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.221 m^2	Total area of condensator	0.62 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：440/1 Outdoor：451/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	2.0 L
Rotating speed of air fan	Indoor：980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/2 Outdoor unit：axial flow type/1
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	0.8 MPa
Indoor hygrometer temperature	32/23℃	Outdoor hygrometer temperature	43/26℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-28HA03/M(R1)	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	28000 BTU/h	Heat producing capacity	30000 BTU/h
Cold producing coefficient	2.4W/W	Heat producing coefficient	2.8W/W
Cold producing power	3400 W	Heat producing power	3200 W
Defrosting capacity	3.0×10^{-3} m^3/h	Ratio of energy generating to consuming	----------
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	380-400 V	Operating current scope	5.4-8.0A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R407C
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	35/32/29 dB(A)	Outdoor unit noises (cold producing)	58 dB(A)
Indoor unit noises (heat producing)	35/32/29 dB(A)	Outdoor unit noises (heat producing)	58 dB(A)
External dimension of indoor unit	990×650×300 mm	External dimension of outdoor unit	948×340×830 mm
Package dimension of indoor unit	1137×800×320 mm	Package dimension of outdoor unit	1050×440×979 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	40/57 kg	Net weight/gross weight of outdoor unit	74/89 kg
Maximum installation fall	15 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	2.62kg	Maximum infusing quantity of refrigerant	3.9 kg
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	ZR40K3E-TFD-522	Manufacturer of air compressor	Copeland Compressor Inc.of USA
Oil inpouring volume to air compressor	1247 cc	Type of air compressor protector	32HM50-63,Dezhou Instrument Factory
Cut off valve type	Φ9.52/Φ15.88	Four-way valve type	STF-0203
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：6 enter，6 return Condensator：10 enter,10 return	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.221 m^2	Total area of condensator	0.62 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：440/1 Outdoor：451/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	2.0 L
Rotating speed of air fan	Indoor：980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/2 Outdoor unit：axial flow type/1
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	2.8 MPa
Indoor hygrometer temperature	Cold producing：32/23℃ Heat producing：27/—℃	Outdoor hygrometer temperature	Cold producing：43/26℃ Heat producing：24/18℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

Type	HDU-28H03/M	Appearance color (indoor/outdoor unit)	White/White
Cold producing capacity	28000 BTU/h	Heat producing capacity	29000 BTU/h
Cold producing coefficient	6.8	Heat producing coefficient	6.6
Cold producing power	2600 W	Heat producing power	2500 W
Defrosting capacity	3.0×10^{-3} m^3/h	Ratio of energy generating to consuming	3.16/3.40
New wind capacity	New air inlet included	Negative hydronium quantity of negative hydronium type machine	————
Operating voltage scope	220~230 V	Operating current scope	11.05-19.5A
Operating temperature scope	-7~43 ℃	Operating fitting frequency	50 Hz
Temperature adjustment difference	±1 ℃	Type of refrigerant	R22
Climate type	T1	Anti-static protection type	I
Indoor unit noises (cold producing)	35/32/29 dB(A)	Outdoor unit noises (cold producing)	58 dB(A)
Indoor unit noises (heat producing)	35/32/29 dB(A)	Outdoor unit noises (heat producing)	58 dB(A)
External dimension of indoor unit	990×650×300 mm	External dimension of outdoor unit	948×340×830 mm
Package dimension of indoor unit	1137×800×320 mm	Package dimension of outdoor unit	1050×440×979 mm
Installation motherboard dimension	————	Layer restriction of laminated indoor and outdoor unit	4/2
Net weight/gross weight of indoor unit	40/57 kg	Net weight/gross weight of outdoor unit	74/89 kg
Maximum installation fall	15 m	Current-in side (indoor/outdoor)	————
Allowable infusing quantity of refrigerant	2.4 kg	Maximum infusing quantity of refrigerant	3.9 kg
Cleanout frequency of filter	Once per month	Type of filter (filer screen)	XPE
Filtration efficiency	————	Dimension of filter (filter screen)	————
Type of air compressor	ZR34K3-PFJ-522	Manufacturer of air compressor	Copeland Compressor Inc.of USA
Oil inpouring volume to air compressor	1247 cc	Type of air compressor protector	32HM50-63,Dezhou Instrument Factory
Cut off valve type	Φ9.52/Φ15.88	Four-way valve type	STF-0203
Dimension of air-in grid shaking flake	————	Quantity /space of air-in grid shaking flake	————
Length of maximum connecting pipe of unit	50 m	Total length of refrigerating pipe circuit (liquid /gas)	————
Drainage pipe type	PVC	Length/ diameter of drainage pipe	Φ25(indoor) Φ32(outdoor)
Flow value of evaporator and condensator	Evaporator：6 enter，6 return Condensator：10 enter,10 return	Type /diameter of evaporator and condensator pipe	TP_2MΦ9.52
Total area of evaporator	0.221 m^2	Total area of condensator	0.62 m^2
Temperature scope of evaporator	2~7 ℃	Temperature scope of condensator	43~60 ℃
Total fin quantity /its row number	Indoor：440/1 Outdoor：451/2	Thickness /space of fin	1.85/1.80 mm
Fin coefficient	————	Fin material kind	Aluminum foil
Type of capillary	TP_2Y	Diameter /length of capillary	————
Protector type on control panel	See chapter 7. 2	Temperature sensor type	10/23/5 KΩ
Real-time adjustment scope	————	Consumed power capacity	————
Type of accessories on computer board	See chapter 7. 2	Type of segregator for gas and liquid	2.0 L
Rotating speed of air fan	Indoor：980/890/810 r/min Outdoor：840 r/min	Type /quantity of air fan	Indoor unit：centrifugal type/2 Outdoor unit：axial flow type/1
Type of muffle	Φ40×2	Kind of adopted noise reduction material	daub
Air-out grid flake's shaking frequency	————	Angle /distance of air ventilation	—/10 m
Maximum work pressure on heated side	2.8 MPa	Maximum work pressure on cold side	2.8 MPa
Indoor hygrometer temperature	Cold producing：32/23℃ Heat producing：27/—℃	Outdoor hygrometer temperature	Cold producing：43/26℃ Heat producing：24/18℃
Authentication certificate held	CE	Antisepsis screen(sterilization screen) type and dimension	Resin net
Appearance feature of in and outdoor unit of the product	See chapter 4	Shelter material	Dispersed electro-zinl coated sheet
Product peculiarities	1） low noise 2） easy to instal	Product performance	See chapter 7

3.Specifications of Products

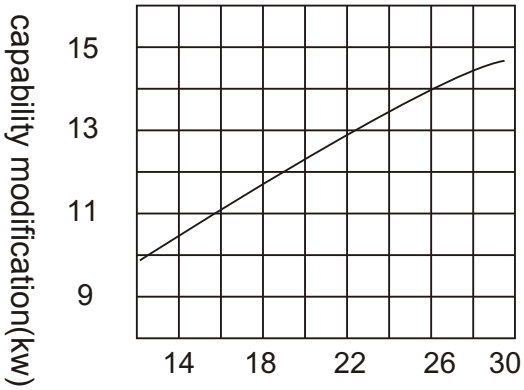
Model	HDU-42H03/M HDU-42C03/M	HDU-28H03/M HDU-28C03/M
Structural features	compact structure,using pump to drain water	
Refrigerating capacity	42000BTU/h	28000BTU/h
Voltage	3N~ 380-400V	1PH 220-230V
Product Series	low electrostatic level	
External appearance	equipped with decorated panel	
Quality certification	CE	
Remote controller	wire controller	
Refrigerant	R22	
Type of climate	T1	
Dimensions of indoor unit	1410×645×350mm	990×650× 300mm
Dimensions of outdoor unit	**948x340x1225mm**	**948x340x830mm**
Packed dimensions(indoor u.)	1557×800×370mm	1040× 800× 320mm
Packed dimensions(indooru.)	1050x440x1375mm	1050x440x980mm
Packing list		

Model	HDU-42HA03/M(R1)	HDU-36HA03/M(R1)	HDU-28HA03/M(R1)
Structural features	compact structure,using pump to drain water		
Refrigerating capacity	42000BTU/h	36000BTU/h	28000BTU/h
Voltage	3N~ 380-400V		
Product Series	low electrostatic level		
External appearance	equipped with decorated panel		
Quality certification	CE		
Remote controller	wire controller		
Refrigerant	R407C		
Type of climate	T1		
Dimensions of indoor unit	1410 ×645 ×350mm		990 ×650 ×300mm
Dimensions of outdoor unit	**948x340x1225mm**		**948x340x830mm**
Packed dimensions(indoor u.)	1557 ×800 ×370mm		1040× 800× 320mm
Packed dimensions(indooru.)	1050x440x1375mm		1050x440x980mm
Packing list			

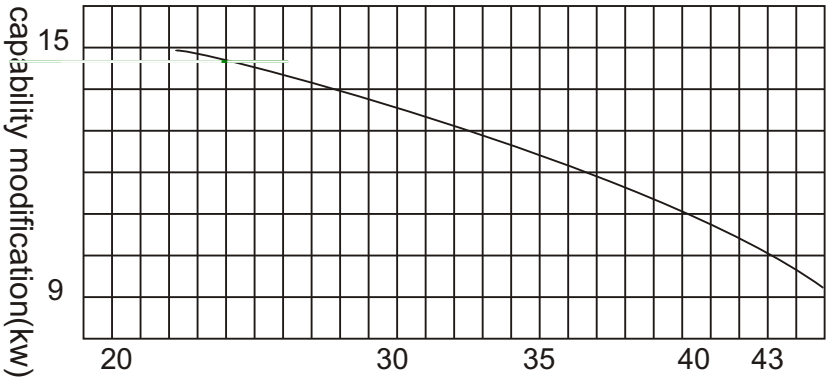
A. Capability modification curver

(1)HDU-42H(C)03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)(Cold producing/Heat producing)

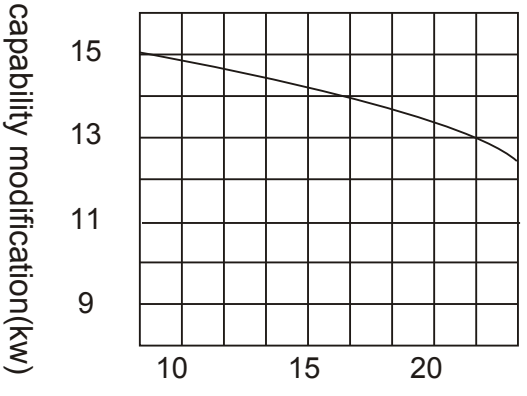
① Alteration curve of indoor air wet-bulb temperature



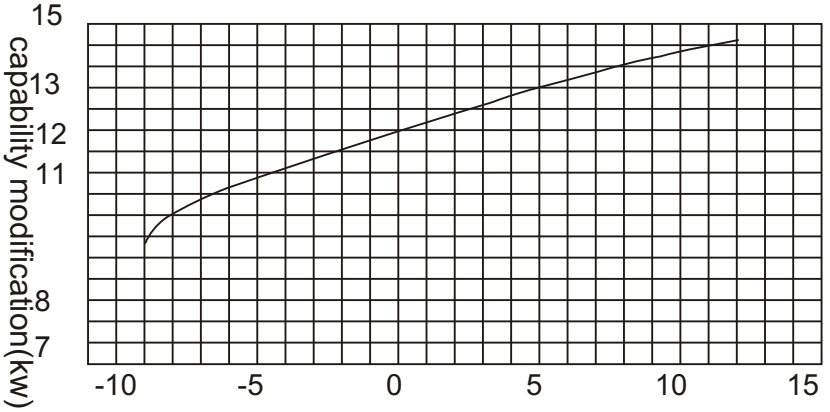
② Alteration curve of outdoor air dry-bulb temperature



①Alteration curve of indoor air dry-bulb temperature

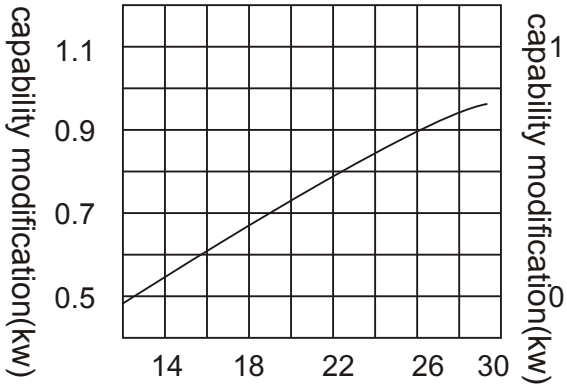


② Alteration curve of outdoor air wet-bulb temperature

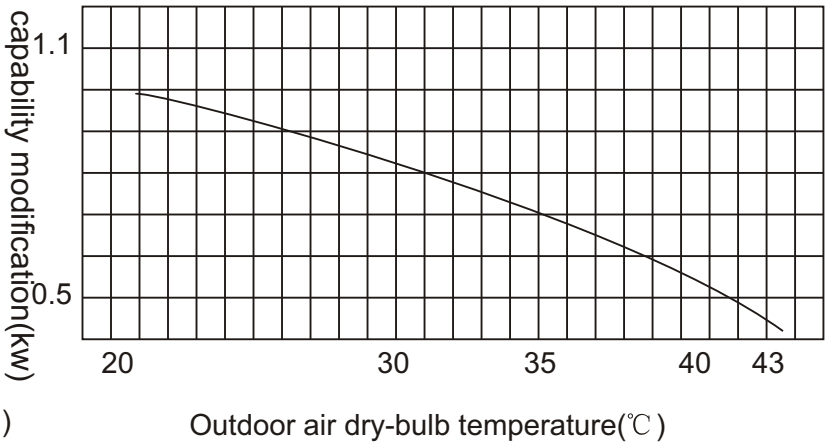


(2)HDU-28H(C)03/M HDU-28HA03/M(R1)(Cold producing/Heat producing)

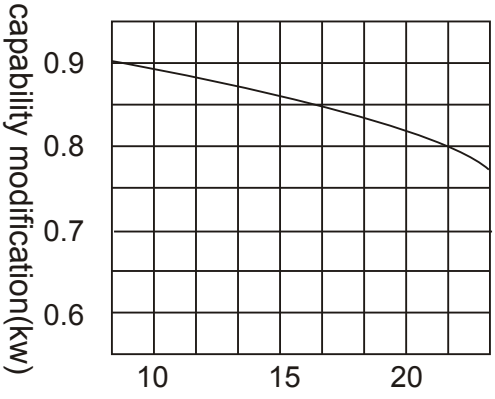
①Alteration curve of indoor air wet-bulb temperature



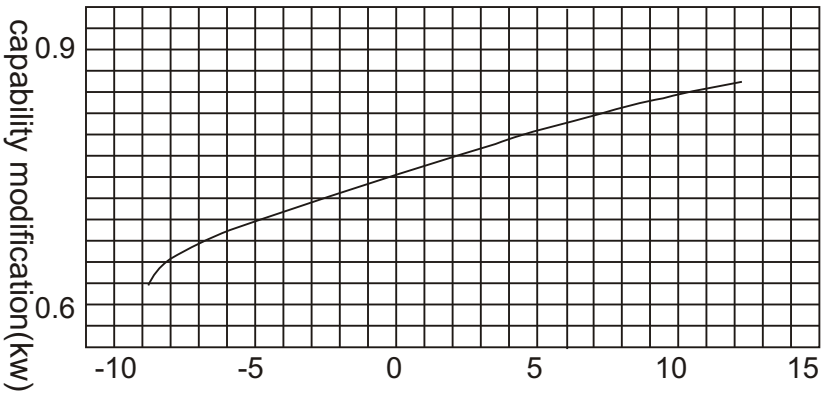
② Alteration curve of outdoor air dry-bulb temperature



①Alteration curve of indoor air dry-bulb temperature

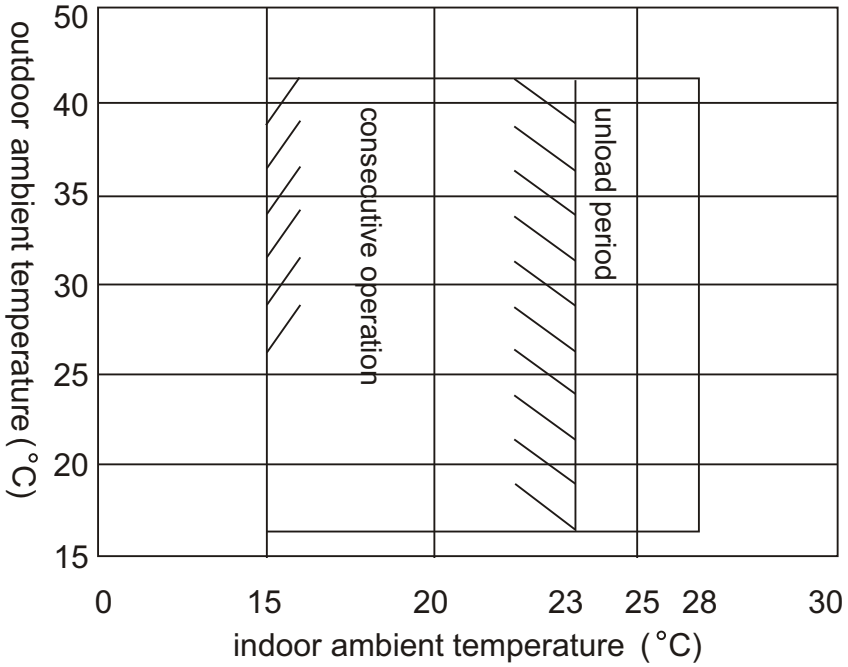


② Alteration curve of outdoor air wet-bulb temperature

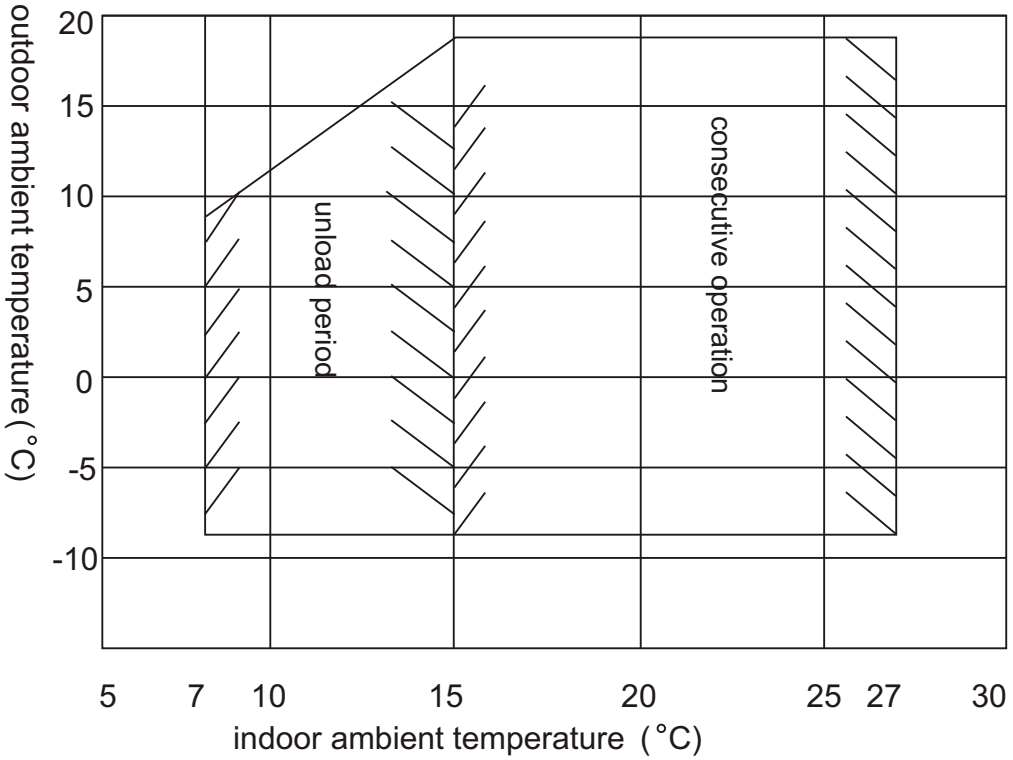


B.Specification brochure of the product

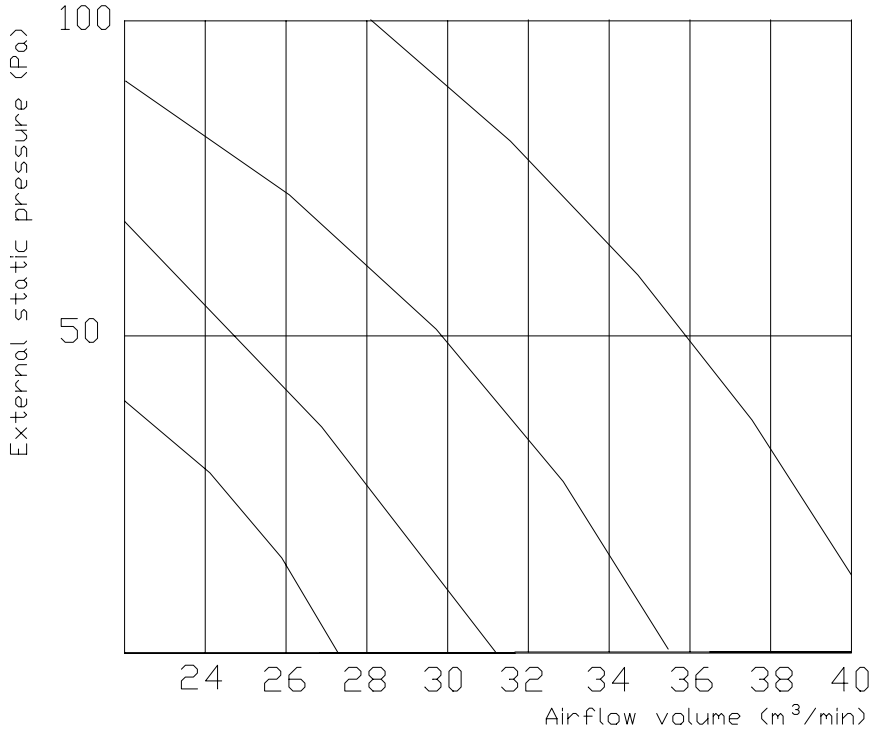
Ambient temperature range for cooling operation:



Ambient temperature range for heating operation

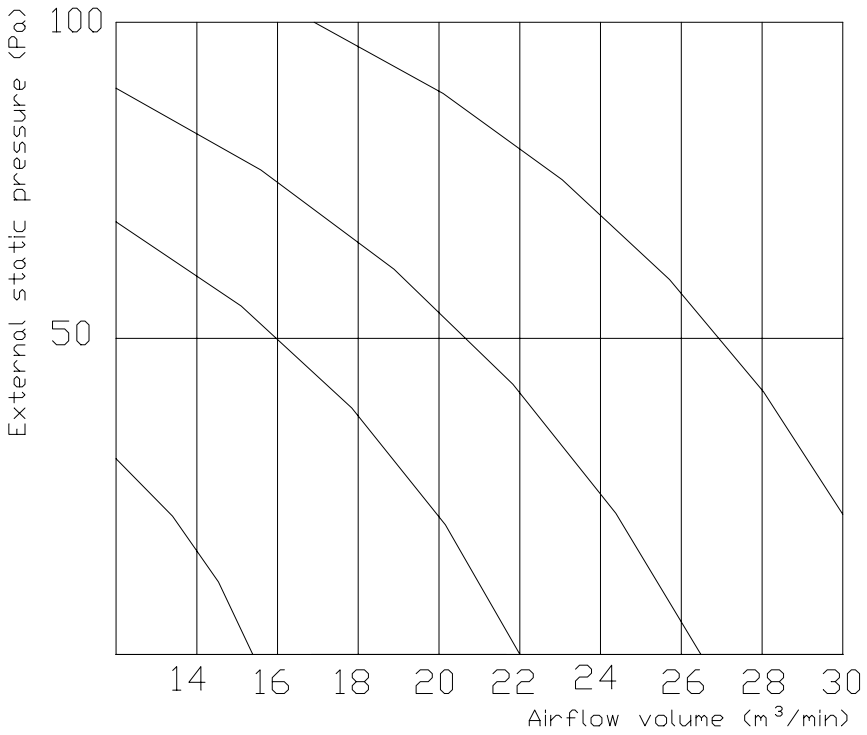


C. Airflow volume/External static pressure



HDU-42H03/M □R HDU-42C03/M

HDU-42HA03/M(R1) OR HDU-36HA03/M(R1)

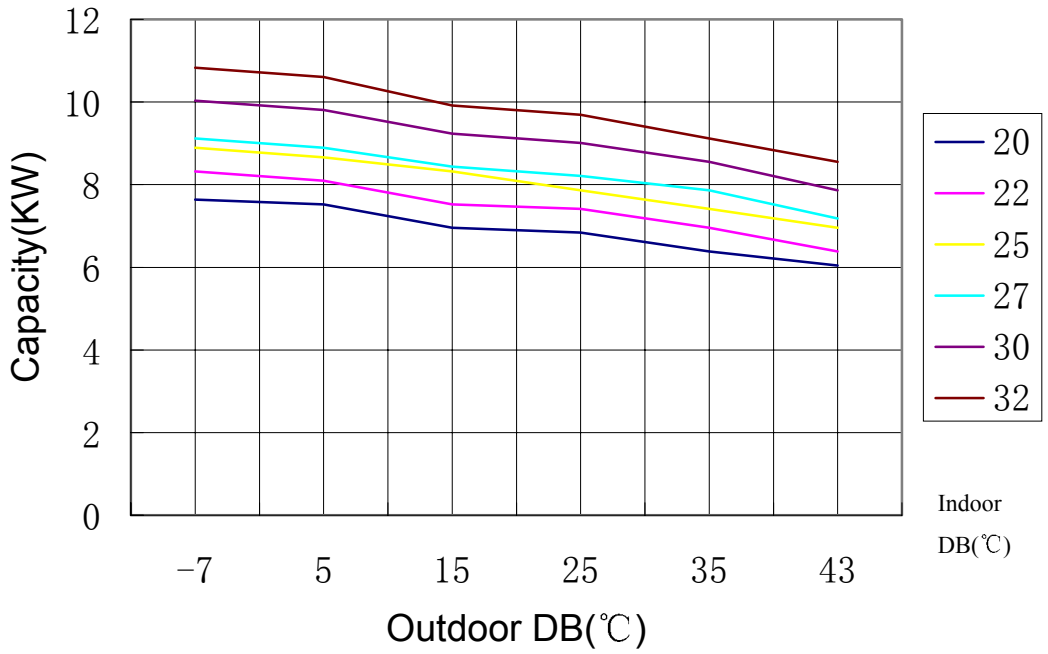


HDU-28HA03/M(R1) HDU-28H03/M □R HDU-28C03/M

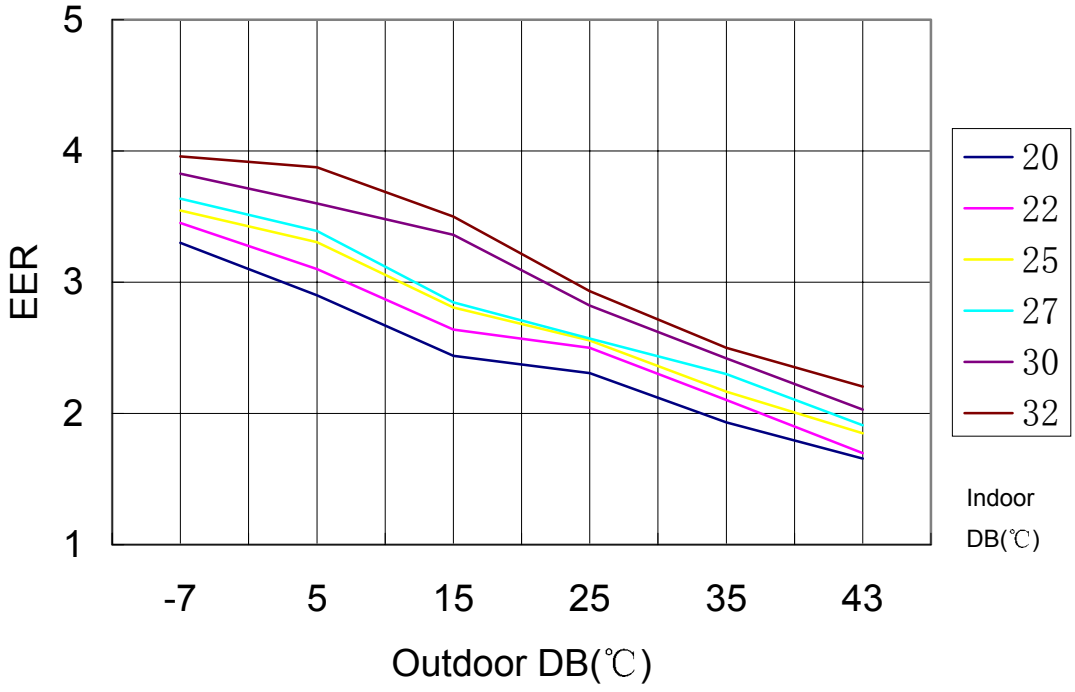
D. Performance curves

Model: HDU-28C03/M HDU-28H03/M HDU-28HA03/M(R1)

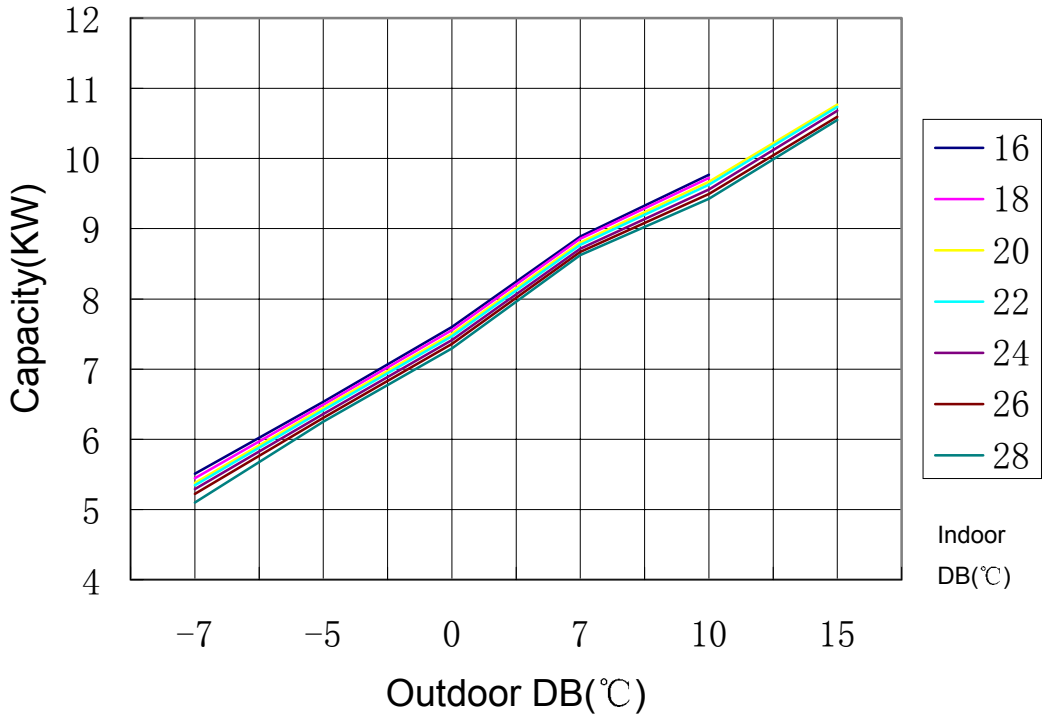
Cool capacity graph



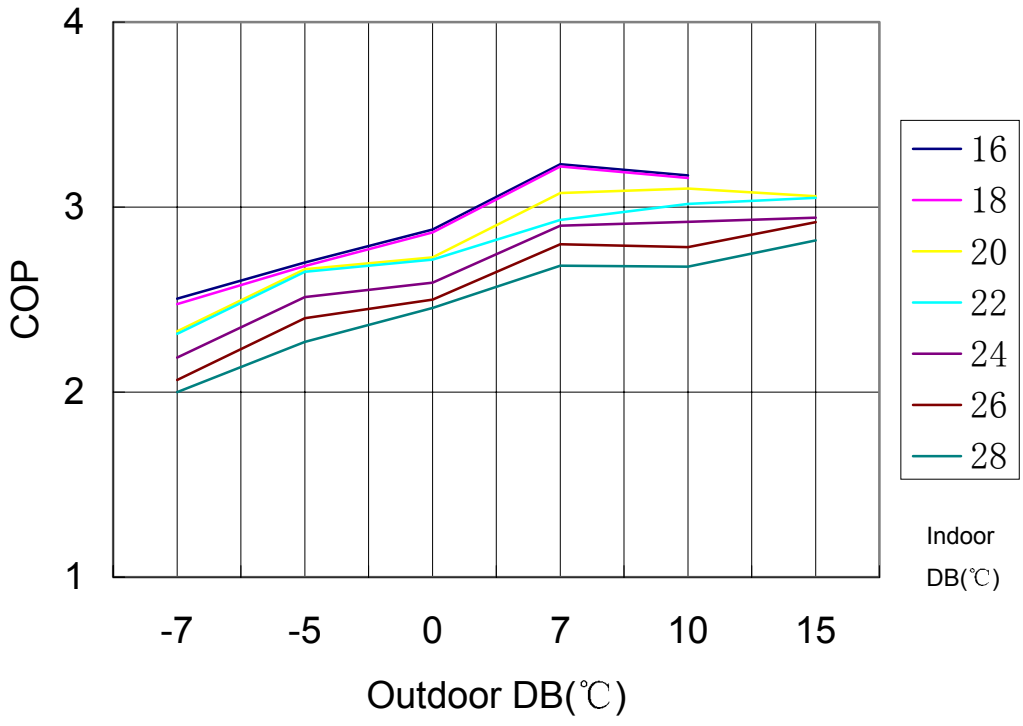
EER graph



Heat capacity graph (only heat type available)

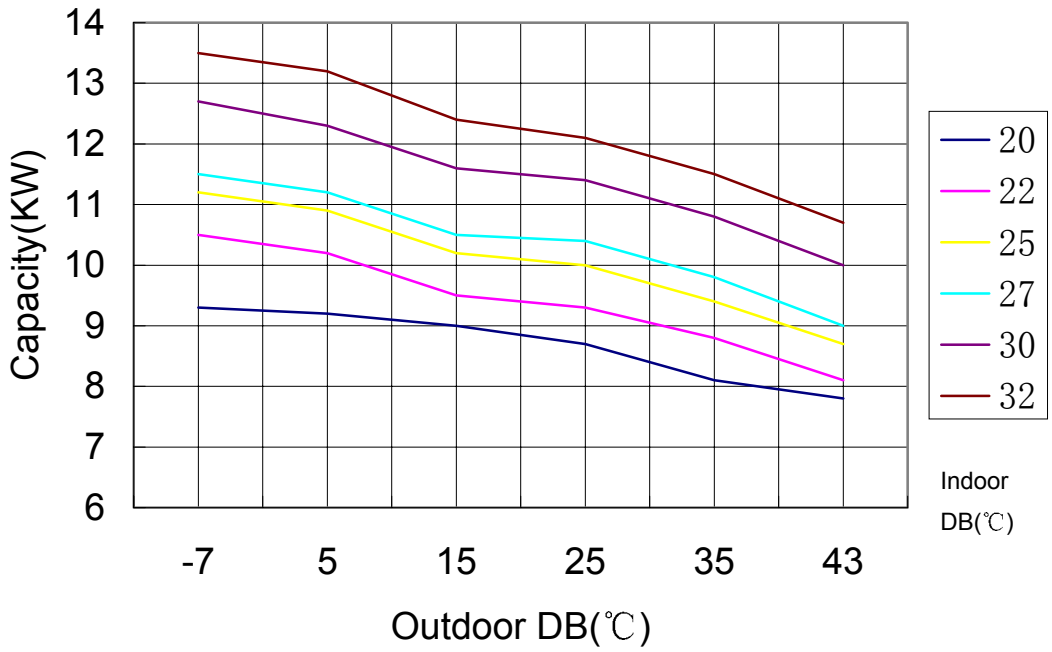


COP graph (only heat type available)

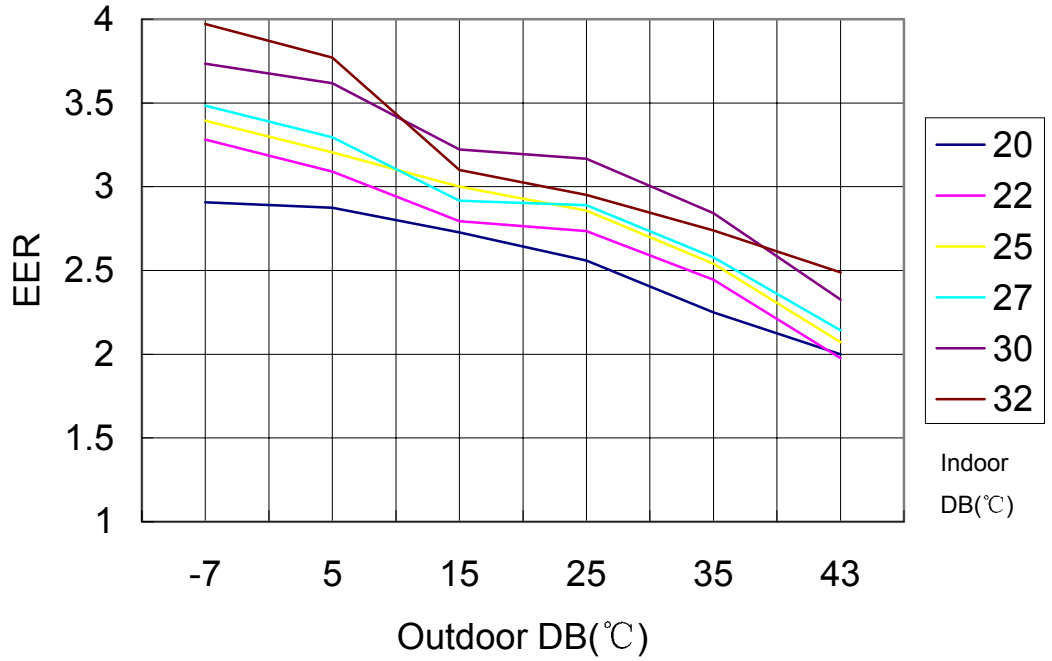


Model: HDU-36HA03/M(R1)

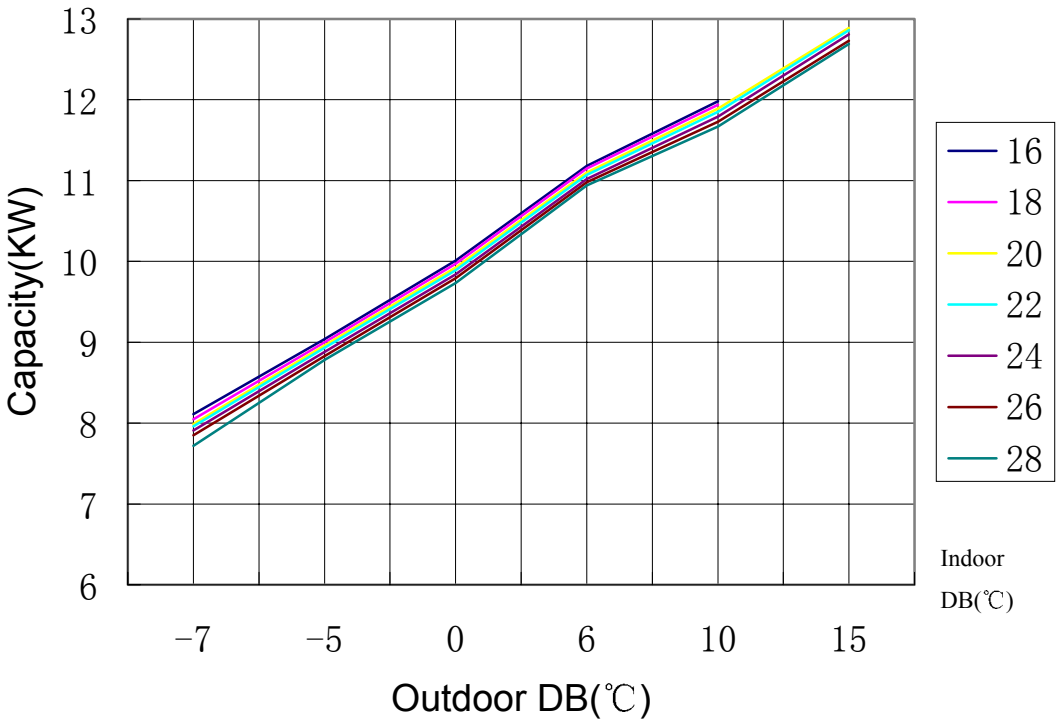
Cool capacity graph



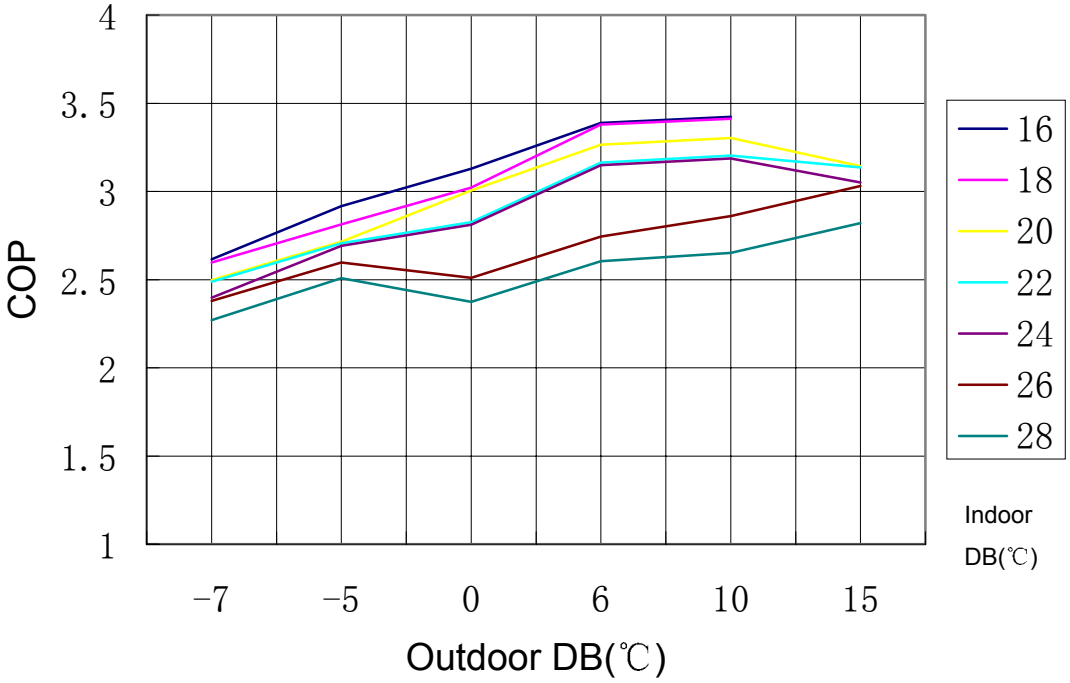
EER graph



Heat capacity graph (only heat type available)

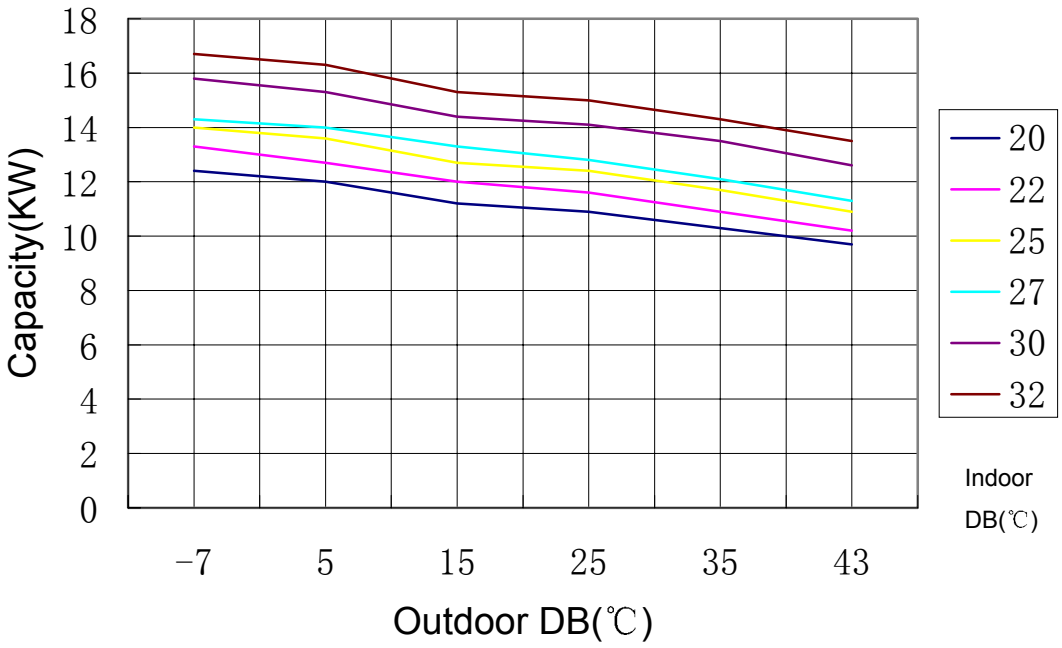


COP graph (only heat type available)

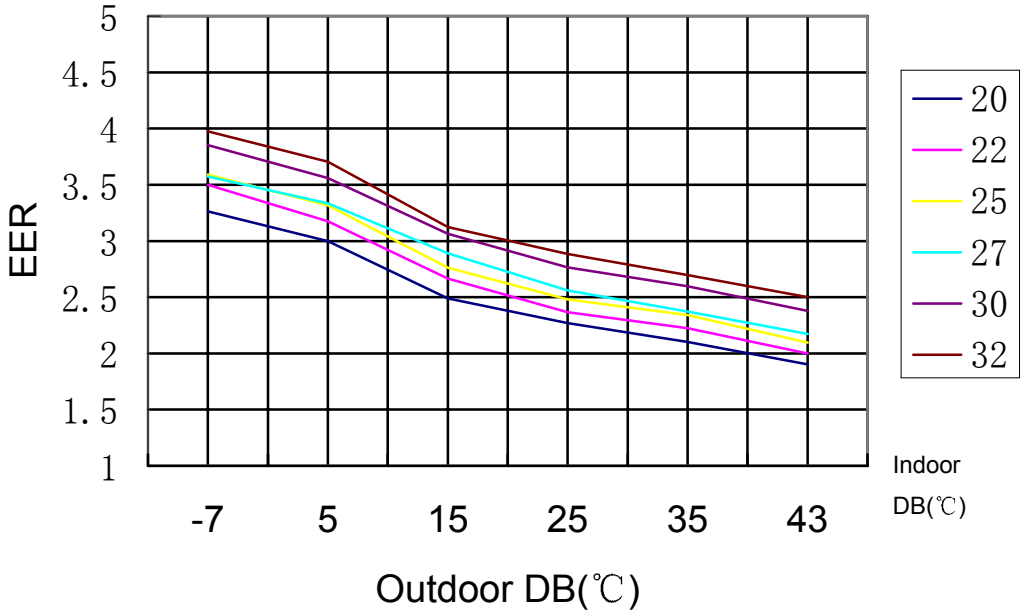


Model: HDU-42C03/M HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

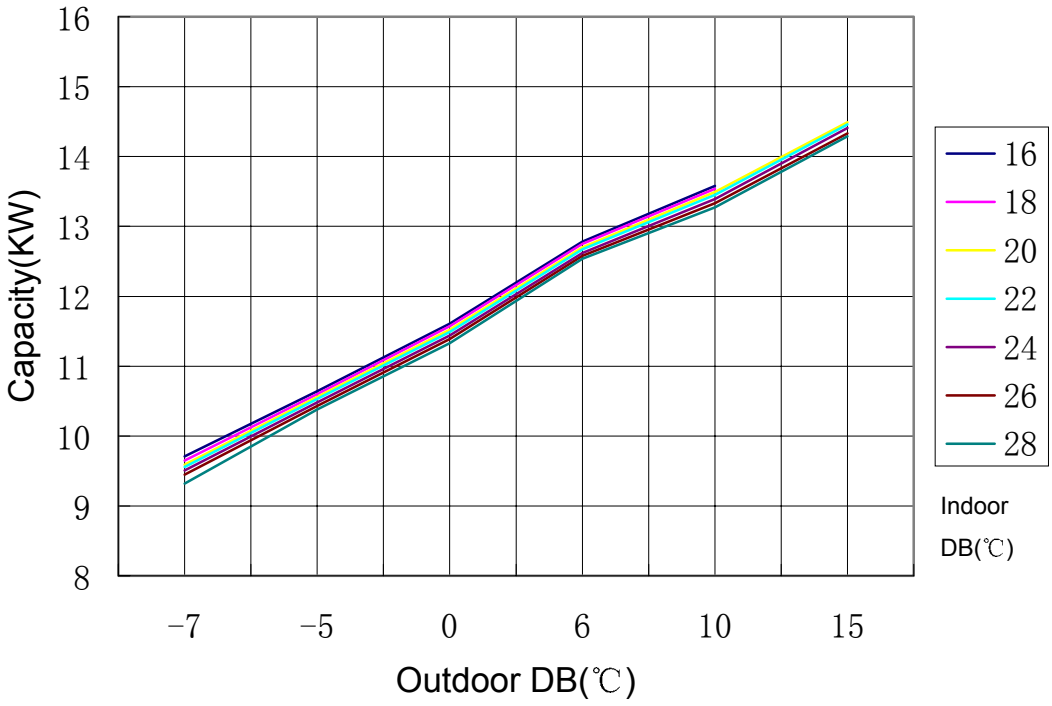
Cool capacity graph



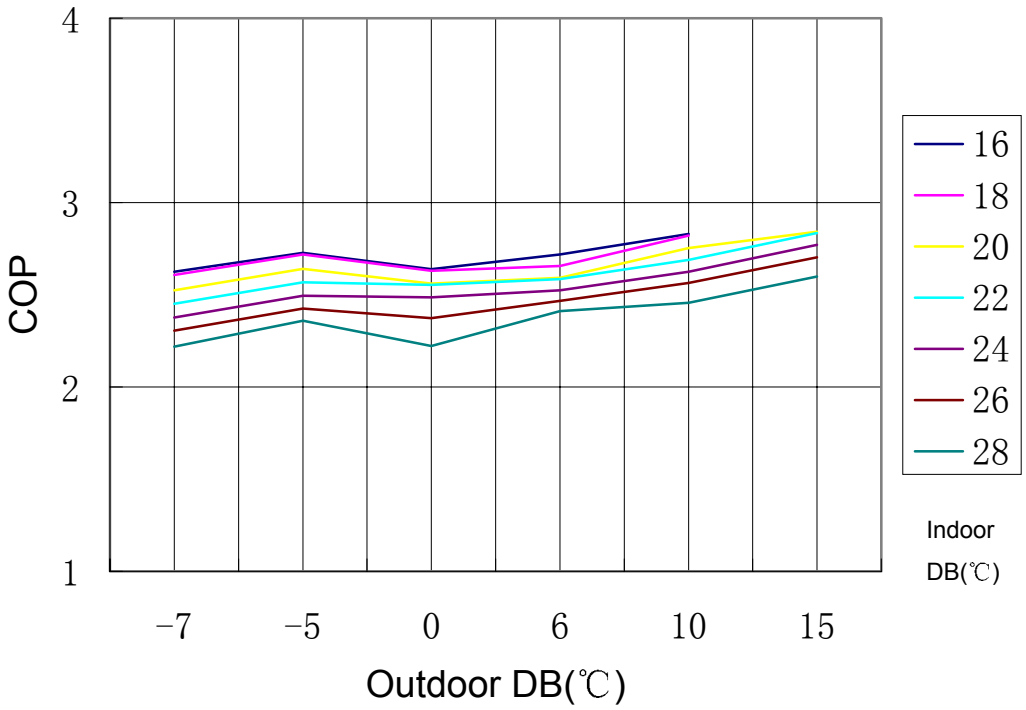
EER graph



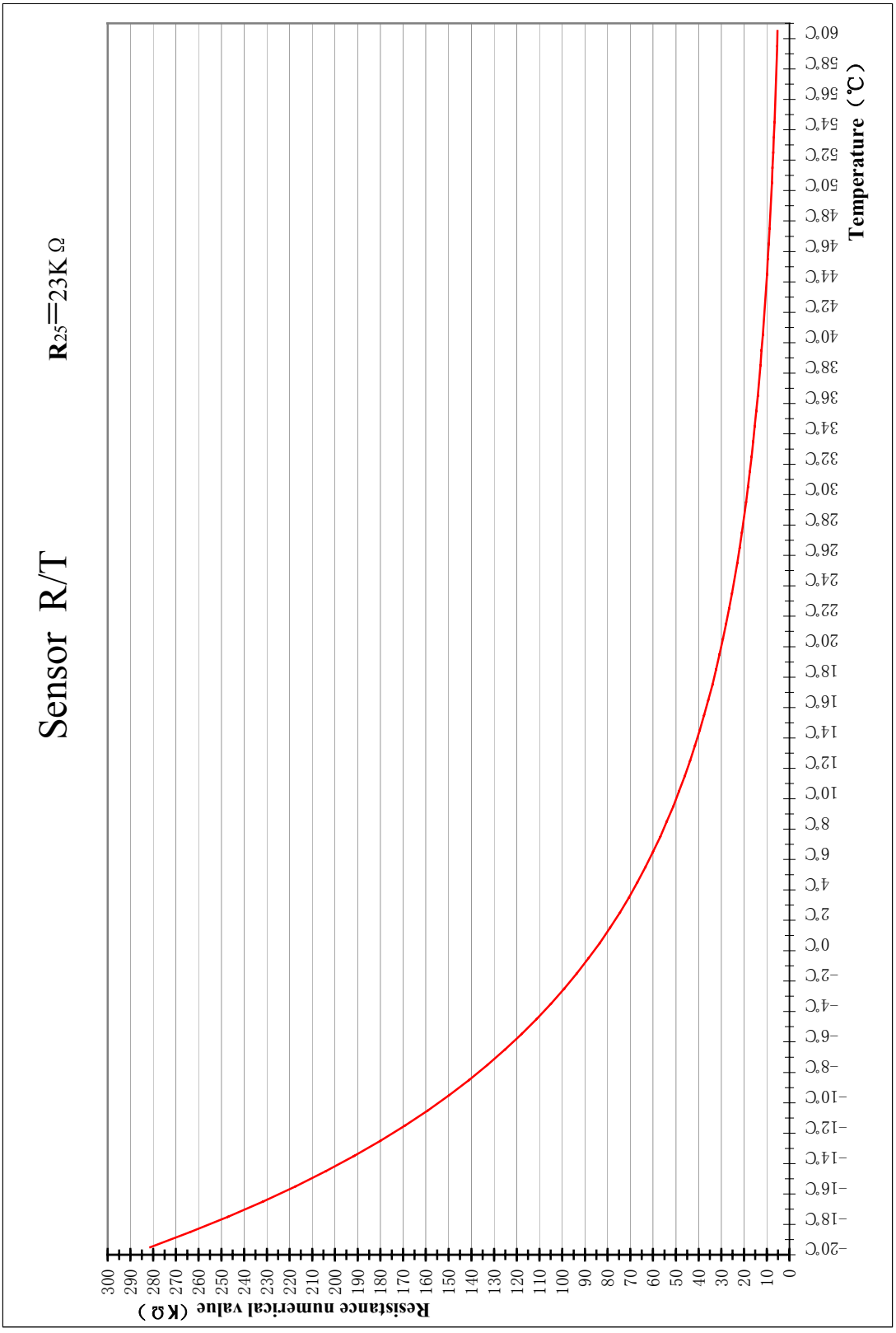
Heat capacity graph (only heat type available)



COP graph



E. Sensor graph

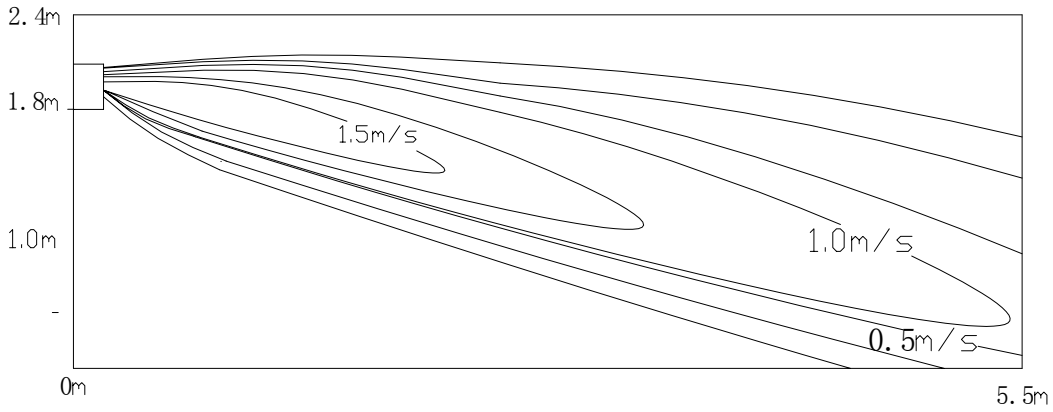


F.3HP Air Velocity distribution +Temperature distribution

a. Cooling / Air Velocity Distribution

Model:HDU-28C03/M HDU-28H03/M HDU-28HA03/M(R1)

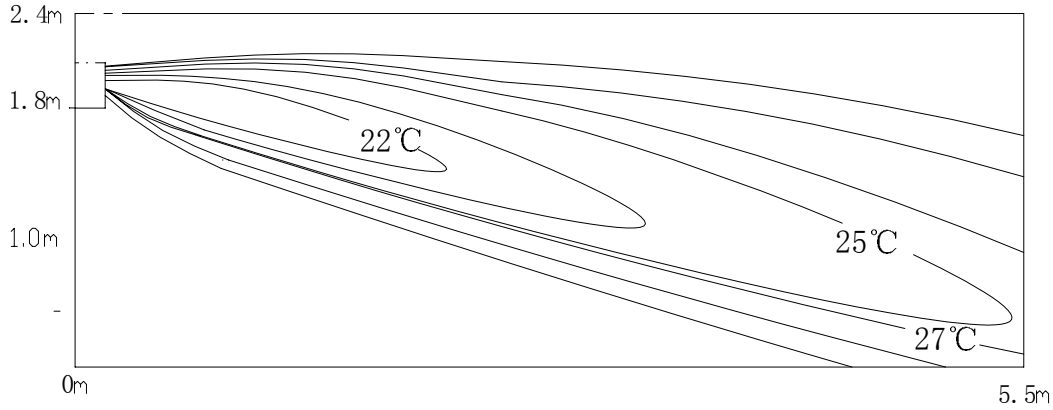
Cooling
Blowy angle:5
Air Velocity Distribution



b. Cooling / Temperature Distribution

Model:HDU-28C03/M HDU-28H03/M HDU-28HA03/M(R1)

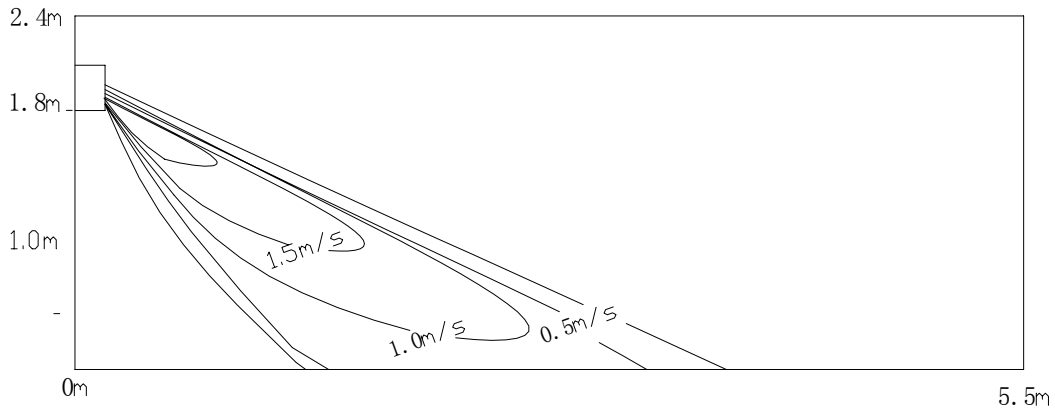
Cooling
Blowy angle:5
Temperature Distribution



c. Heating / Air Velocity Distribution

Model:HDU-28C03/M HDU-28H03/M HDU-28HA03/M(R1)

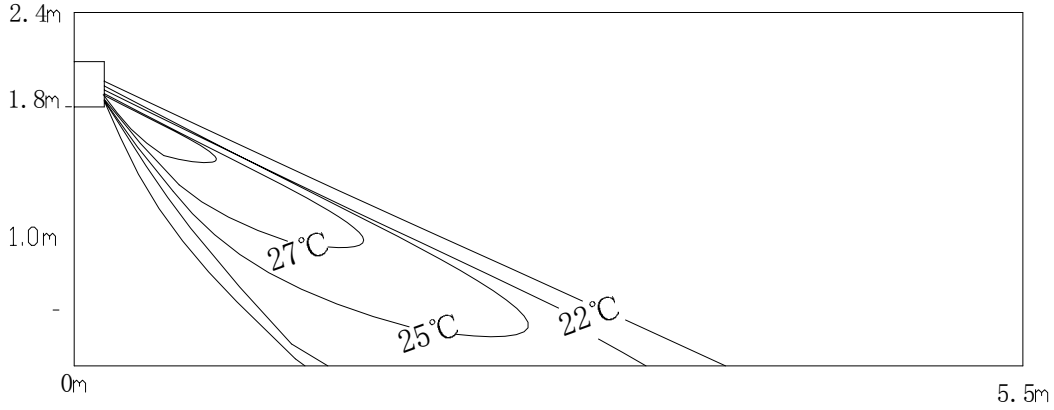
Heating
Blowy angle:45
Air velocity Distribution



d. Heating / Temperature Distribution

Model:HDU-28C03/M HDU-28H03/M HDU-28HA03/M(R1)

Heating
Blowy angle:45
Temperature Distribution

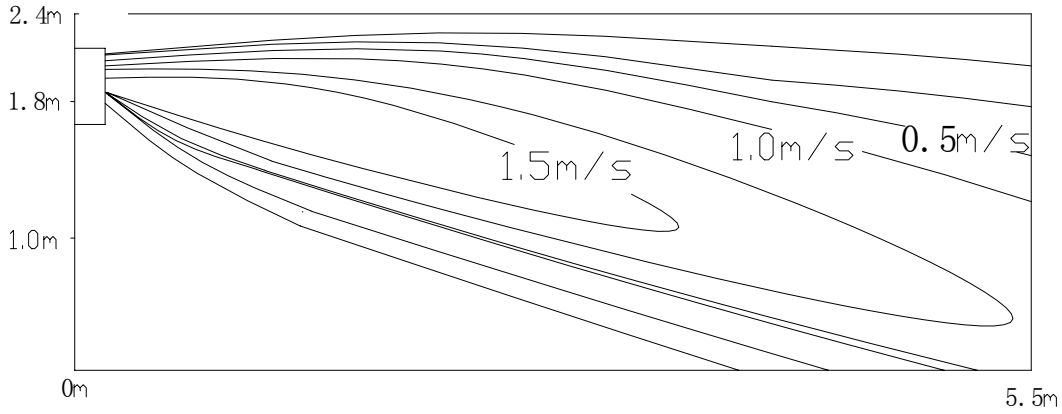


G. 5HP Air Velocity distribution +Temperature distribution

a. Cooling / Air Velocity Distribution

Model:HDU-42C03/M HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

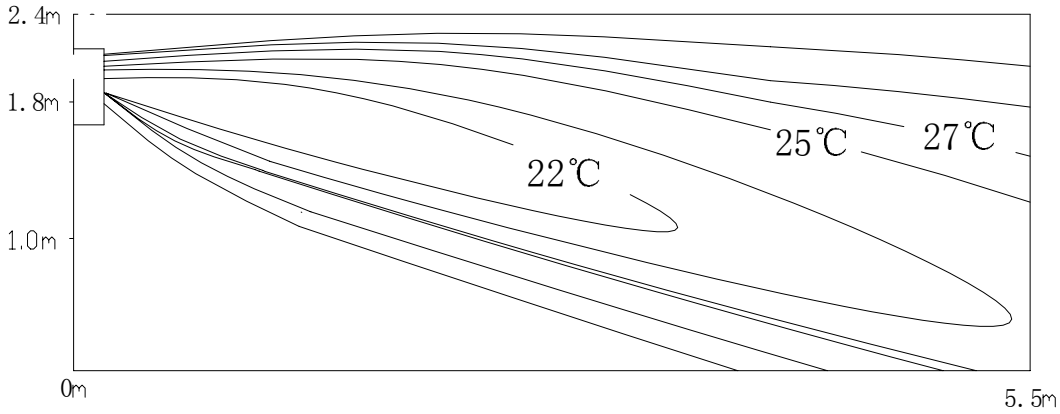
Cooling
Blowy angle:5
Air Velocity Distribution



b. Cooling / Temperature Distribution

Model:HDU-42C03/M HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

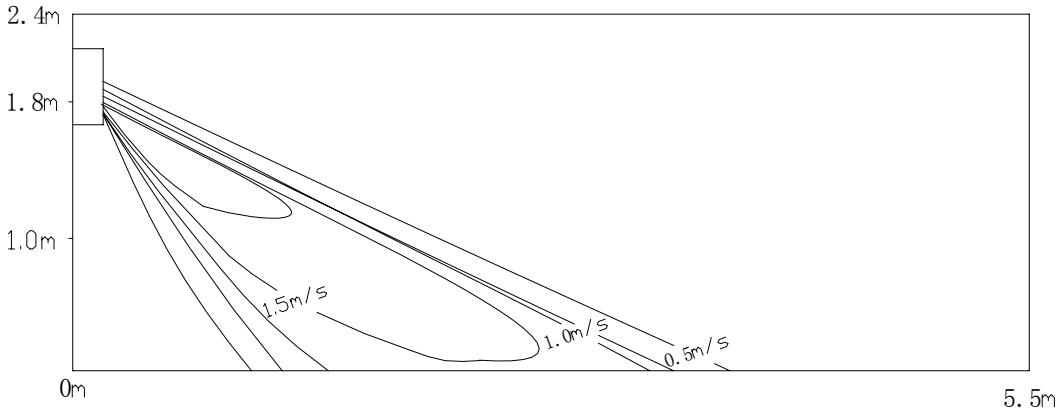
Cooling
Blowy angle:5
Temperature Distribution



c. Heating / Air Velocity Distribution

Model:HDU-42C03/M HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

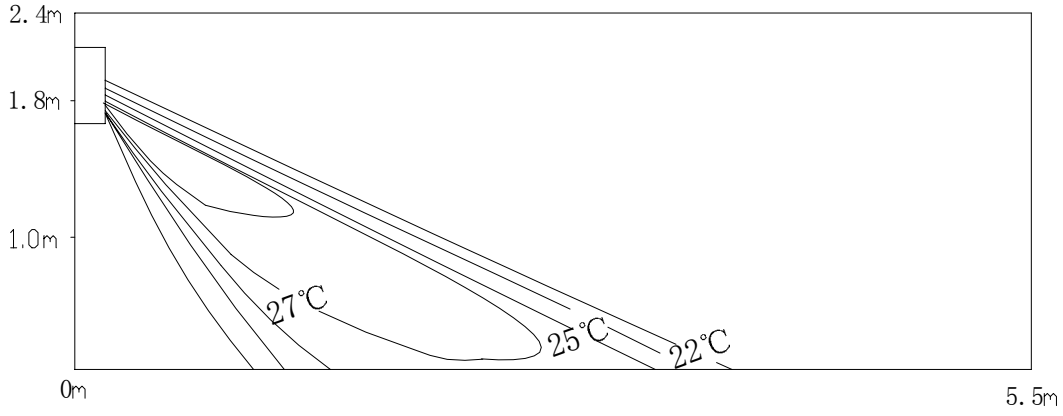
Heating
Blowy angle:45
Air velocity Distribution



d. Heating / Temperature Distribution

Model:HDU-42C03/M HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

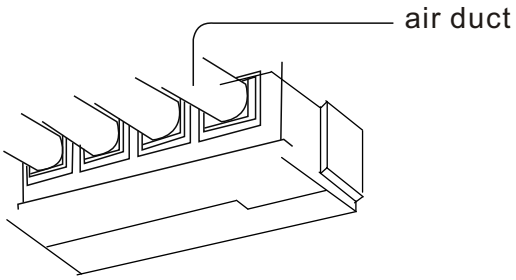
Heating
Blowy angle:45
Temperature Distribution



4.Names, Dimensions and Functions of Main Parts and Accessories

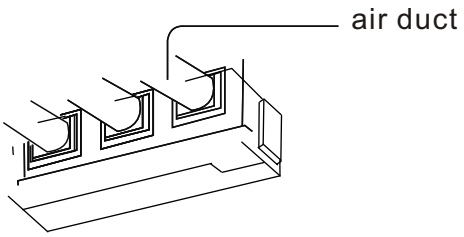
Indoor unit: 1. HDU-42H03/M HDU-42C03/M

HDU-42HA03/M(R1) HDU-36HA03/M(R1)

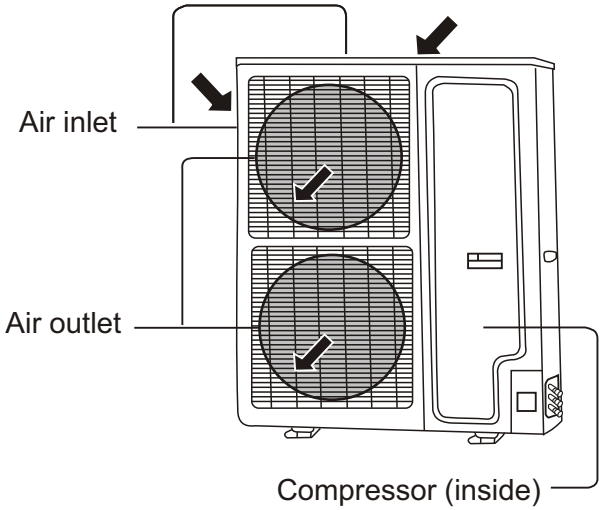


2.HDU-28H03/M HDU-28C03/M

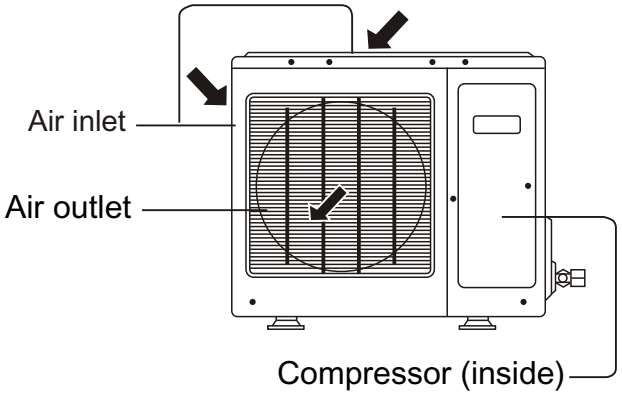
HDU-28HA03/M(R1)



Outdoor unit: 1. HDU-42H03/M HDU-42C03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)



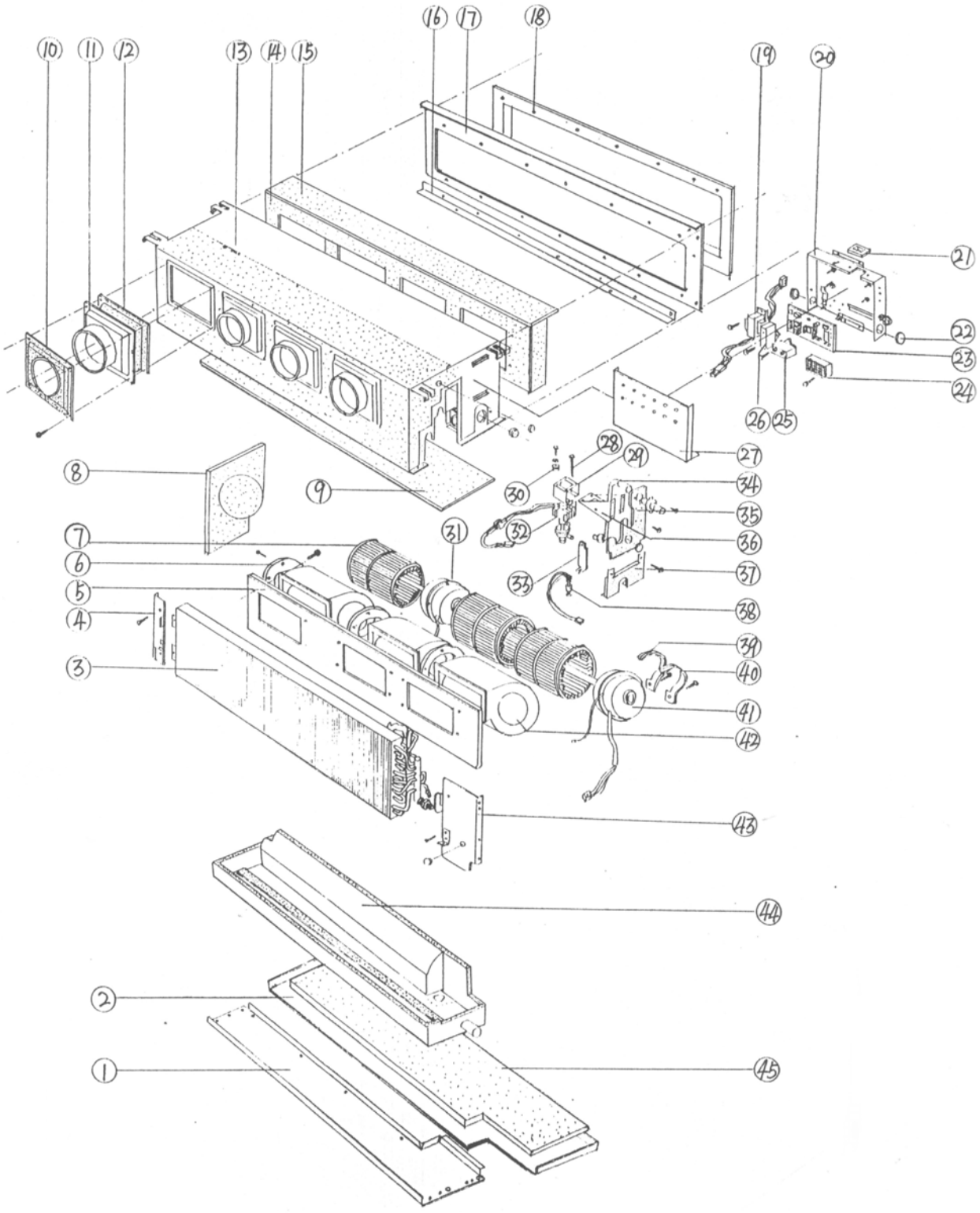
2.HDU-28H03/M HDU-28C03/M HDU-28HA03/M(R1)



5. Explosive View and Detailed List of Parts

Model:HDU-42H03/M HDU-42C03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

Indoor



Model: HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)

Indoor:

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Guard plate 1	1101223	24	Terminal board	4000151
2	Guard plate 2	1101226	25	Fan capacitor	3600237
3	Evaporator assembly	0400184	26	Fan capacitor	3600134
4	Right fixing plate assembly	0100744	27	Electrical box cover assembly	0100859
5	Supporting plate assembly	0100807	28	Fixing bolt	5002256
6	Seal ring for scroll case	1301988	29	W ater pump fixing stand	1309785
7	Centrifugal fan	2331089	30	Damping pad	17511246
8	Cushion	17621153	31	Dual shaft electric motor	3000250
9	Cushion	17621151	32	Water pump motor	3000197
10	Cushion	17341291	33	Floater fixing stand	1301786
11	Air outlet	14311066	34	Water drain pipe assembly	0900093
12	Cushion	17341292	35	Connecting plate 2	1301783
13	Base platee assembly	0100742	36	Water pump support	1301784
14	Cushion	17341156	37	Connecting plate 1	1301782
15	Chshion	17341269	38	Connecting plate 1	3400076
16	Long fixing tendon	1101228	39	Fixed handle 1	1301789
17	Enclosure	1101224	40	Fixed handle 2	1301790
18	Inlet wind connect frame	1101225	41	Single-shaft motor	3000251
19	Transformer	3800005	42	Scroll case	1101205
20	Transformer case assembly	0100858	43	Left fixing plate assembly	0100743
21	Rubber ring	1452909	44	W ater collecting pan assembly	0900094
22	Rubber ring	1452861	45	Cushion	17621350
23	PCB	0010400132			

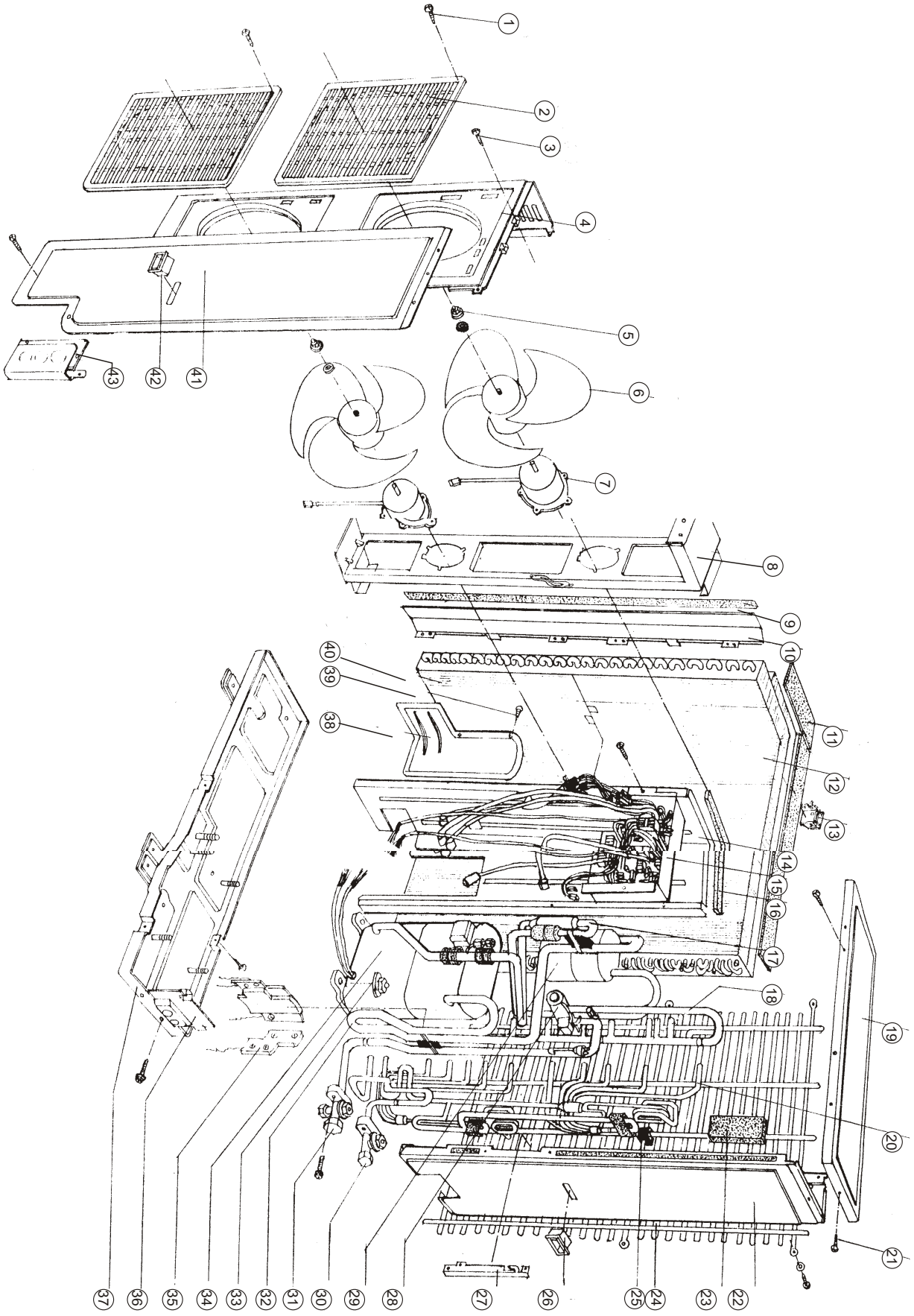
Model：HDU-42C03/M

Indoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Guard plate 1	1101223	24	Terminal board	4000151
2	Guard plate 2	1101226	25	Fan capacitor	3600237
3	Evaporator assembly	0400184	26	Fan capacitor	3600134
4	Right fixing plate assembly	0100744	27	Electrical box cover assembly	0100859
5	Supporting plate assembly	0100807	28	Fixing bolt	5002256
6	Seal ring for scroll case	1301988	29	W ater pump fixing stand	1309785
7	Centrifugal fan	2331089	30	Damping pad	17511246
8	Cushion	17621153	31	Dual shaft electric motor	3000250
9	Cushion	17621151	32	Water pump motor	3000197
10	Cushion	17341291	33	Floater fixing stand	1301786
11	Air outlet	14311066	34	Water drain pipe assembly	0900093
12	Cushion	17341292	35	Connecting plate 2	1301783
13	Base platee assembly	0100742	36	Water pump support	1301784
14	Cushion	17341156	37	Connecting plate 1	1301782
15	Chshion	17341269	38	Connecting plate 1	3400076
16	Long fixing tendon	1101228	39	Fixed handle 1	1301789
17	Enclosure	1101224	40	Fixed handle 2	1301790
18	Inlet wind connect frame	1101225	41	Single-shaft motor	3000251
19	Transformer	3800005	42	Scroll case	1101205
20	Transformer case assembly	0100858	43	Left fixing plate assembly	0100743
21	Rubber ring	1452909	44	W ater collecting pan assembly	0900094
22	Rubber ring	1452861	45	Cushion	17621350
23	PCB	0010400136			

Outdoor

Model: HDU-42H03/M HDU-42C03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)



Model：HDU-42H03/M

Outdoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Screw	5002108	23	Right side plate gasket	17621214
2	Front guard net	1236028	24	Heat exchanger guard net	1303642
3	Screw	5002035	25	Rubber block	1752289
4	Left front panel	1301640	26	Handle	1436160
5	Acorn nut	5102027	27	Fixing plate	1301465
6	Axial-flow type fan	5402022	28	4-way valve	2500117
7	Electric motor	3000244	29	Liquid reservoir	2000175
8	Motor support	1301645	30	2-way shut-off valve	2500115
9	Vertical foam slice	17421215	31	3-way shut-off valve	2500116
10	Vertical slice	1301469	32	Return air pipe assembly	0500714
11	Damping cushion	17341207	33	Flange nut	5102050
12	Upper heat exchanger assembly	0010700713	34	Compressor	2000195
13	Temperature sensor clamp	5736055	35	Shock-resisting sleeve	17621208
14	Partition plate	1301468	36	Valve seat	1301762
15	Electrical case assembly	0010800609	37	Base plate assembly	0100735
16	Partition plate pad	17561212	38	Support	1431952
17	Air discharge pipe assembly	0500721	39	Screw	5002103
18	Air collecting pipe assembly	0010700231	40	Heat exchanger assembly	0010700713
19	Top cover	1101034	41	Small cover plate	1301464
20	Upper fluid collecting pipe assembly	0500522	42	Maintenance panel	1301707
21	Special screw	5002152	43	Handle	1436160
22	Right side plate	1101197			

Model：HDU-42C03/M

Outdoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Screw	5002108	23	Right side plate gasket	17621214
2	Front guard net	1236028	24	Heat exchanger guard net	1303642
3	Screw	5002035	25	Rubber block	1752289
4	Left front panel	1301640	26	Handle	1436160
5	Acorn nut	5102027	27	Fixing plate	1301465
6	Axial-flow type fan	5402022	28	----------	----------
7	Electric motor	3000244	29	Liquid reservoir	2000175
8	Motor support	1301645	30	2-way shut-off valve	2500115
9	Vertical foam slice	17421215	31	3-way shut-off valve	2500116
10	Vertical slice	1301469	32	Return air pipe assembly	0500714
11	Damping cushion	17341207	33	Flange nut	5102050
12	Upper heat exchanger assembly	0010700713	34	Compressor	2000174
13	Temperature sensor clamp	5736055	35	Shock-resisting sleeve	17621208
14	Partition plate	1301468	36	Valve seat	1301762
15	Electrical case assembly	0010800339	37	Base plate assembly	0100735
16	Partition plate pad	17561212	38	Support	1431952
17	Air discharge pipe assembly	0500713	39	Screw	5002103
18	Air collecting pipe assembly	0010700231	40	Heat exchanger assembly	0010700713
19	Top cover	1101034	41	Small cover plate	1301464
20	Upper fluid collecting pipe assembly	0500522	42	Maintenance panel	1301707
21	Special screw	5002152	43	Handle	1436160
22	Right side plate	1101197			

Model: HDU-42HA03/M(R1)

Outdoor:

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Screw	5002108	23	Right side plate gasket	17621214
2	Front guard net	1236028	24	Heat exchanger guard net	1303642
3	Screw	5002035	25	Rubber block	1752289
4	Left front panel	1301640	26	Handle	1436160
5	Acorn nut	5102027	27	Fixing plate	1301465
6	Axial-flow type fan	5402022	28	4-way valve	2500151
7	Electric motor	3000244	29	Liquid reservoir	2000175
8	Motor support	1301645	30	2-way shut-off valve	2500149
9	Vertical foam slice	17421215	31	3-way shut-off valve	2500150
10	Vertical slice	1301469	32	Return air pipe assembly	0500714
11	Damping cushion	17341207	33	Flange nut	5102050
12	Upper heat exchanger assembly	001A0400164	34	Compressor	0010750471
13	Temperature sensor clamp	5736055	35	Shock-resisting sleeve	17621208
14	Partition plate	1301468	36	Valve seat	0010450235
15	Electrical case assembly	0010800609	37	Base plate assembly	0100735
16	Partition plate pad	17561212	38	Support	1431952
17	Air discharge pipe assembly	0500721	39	Screw	5002103
18	Air collecting pipe assembly	0010700231	40	Heat exchanger assembly	001A0400183
19	Top cover	1101034	41	Small cover plate	1301464
20	Upper fluid collecting pipe assembly	0500522	42	Maintenance panel	1301707
21	Special screw	5002152	43	Handle	1436160
22	Right side plate	1101197			

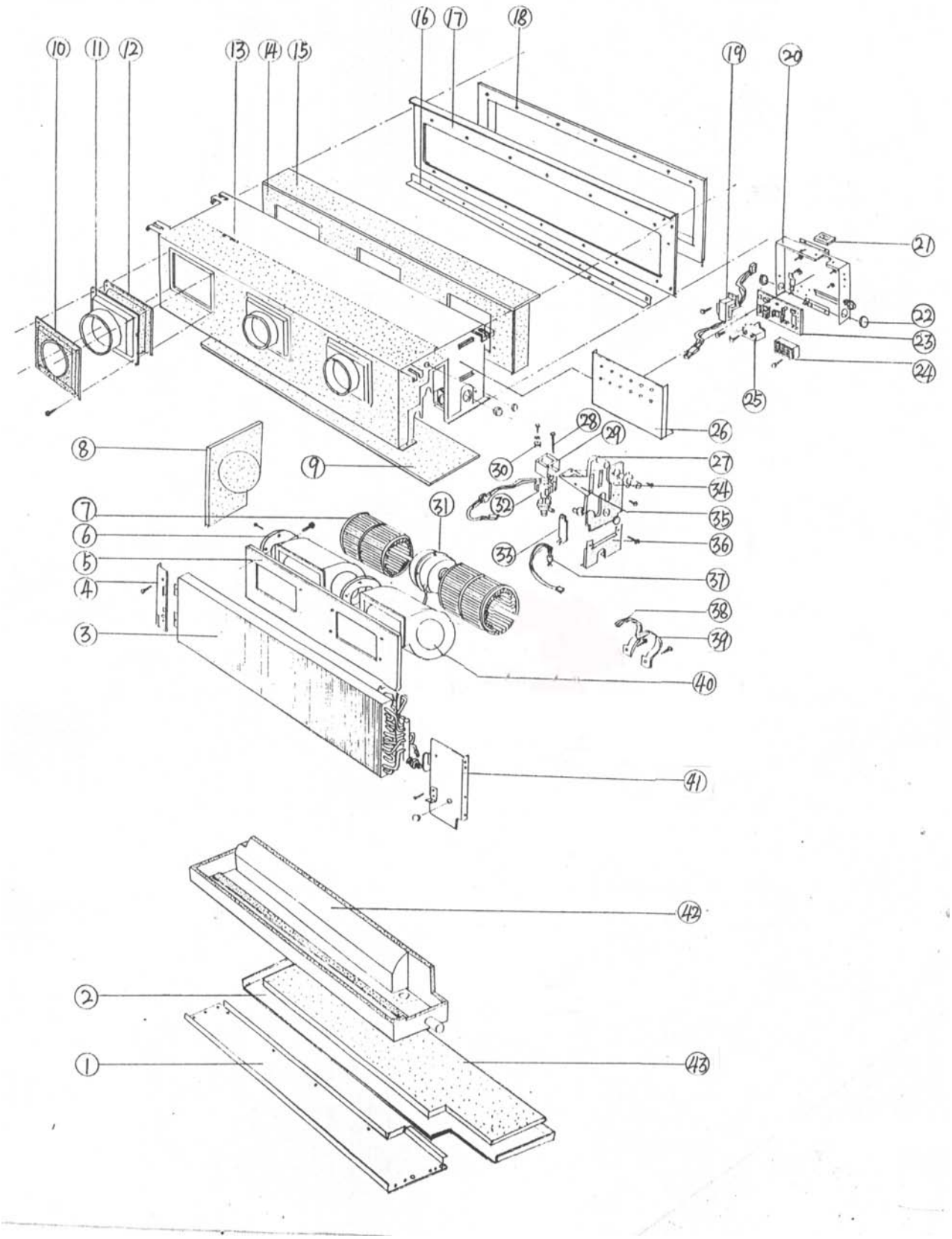
Model: HDU-36HA03/M(R1)

Outdoor:

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Screw	5002108	23	Right side plate gasket	17621214
2	Front guard net	1236028	24	Heat exchanger guard net	1303642
3	Screw	5002035	25	Rubber block	1752289
4	Left front panel	1301640	26	Handle	1436160
5	Acorn nut	5102027	27	Fixing plate	1301465
6	Axial-flow type fan	5402022	28	4-way valve	2500151
7	Electric motor	3000244	29	Liquid reservoir	2000175
8	Motor support	1301645	30	2-way shut-off valve	2500149
9	Vertical foam slice	17421215	31	3-way shut-off valve	2500150
10	Vertical slice	1301469	32	Return air pipe assembly	0010750042
11	Damping cushion	17341207	33	Flange nut	5102050
12	Upper heat exchanger assembly	001A0400164	34	Compressor	0010750196
13	Temperature sensor clamp	5736055	35	Shock-resisting sleeve	17621208
14	Partition plate	1301468	36	Valve seat	0010450235
15	Electrical case assembly	0010800518	37	Base plate assembly	0010150056
16	Partition plate pad	17561212	38	Support	1431952
17	Air discharge pipe assembly	0010750198	39	Screw	5002103
18	Air collecting pipe assembly	0010700231	40	Heat exchanger assembly	001A0400183
19	Top cover	1101034	41	Small cover plate	1301464
20	Upper fluid collecting pipe assembly	0500522	42	Maintenance panel	1301707
21	Special screw	5002152	43	Handle	1436160
22	Right side plate	1101197			

Model：HDU-28H03/M　HDU-28C03/M　HDU-28HA03/M(R1)

Iutdoor：



Model：HDU-28H03/M

Indoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Guard plate 1	0010100223	23	PCB	3300351
2	Guard plate 2	0010100228	24	Terminal board	4000151
3	Evaporator assembly	0010700742	25	Fan capacitor	3600134
4	Right fixing plate assembly	0010800106	26	Electrical box cover assembly	0100859
5	Supporting plate assembly	0010100016	27	Fixing bolt	5002256
6	Seal ring for scroll case	1301988	28	W ater pump fixing stand	1309785
7	Centrifugal fan	2331089	29	Damping pad	17511246
8	Cushion	17621153	30	Dual shaft electric motor	3000250
9	Cushion	0010200120	31	Water pump motor	3000197
10	Cushion	17341291	32	Floater fixing stand	1301786
11	Air outlet	14311066	33	Water drain pipe assembly	0900093
12	Cushion	17341292	34	Connecting plate 2	1301783
13	Base platee assembly	0010800155	35	Water pump support	1301784
14	Cushion	0010200121	36	Connecting plate 1	1301782
15	Chshion	0010200122	37	Connecting plate 1	3400076
16	Long fixing tendon	0010100224	38	Fixed handle 1	1301789
17	Enclosure	0010100226	39	Fixed handle 2	1301790
18	Inlet wind connect frame	0010100227	40	Scroll case	1101205
19	Transformer	3800005	41	Left fixing plate assembly	0100743
20	Transformer case assembly	0100858	42	W ater collecting pan assembly	0900094
21	Rubber ring	1452909	43	Cushion	17621350
22	Rubber ring	1452861			

Model：HDU-28C03/M

Indoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Guard plate 1	0010100223	23	PCB	0010400132
2	Guard plate 2	0010100228	24	Terminal board	4000151
3	Evaporator assembly	0010700742	25	Fan capacitor	3600134
4	Right fixing plate assembly	0010800106	26	Electrical box cover assembly	0100859
5	Supporting plate assembly	0010100016	27	Fixing bolt	5002256
6	Seal ring for scroll case	1301988	28	W ater pump fixing stand	1309785
7	Centrifugal fan	2331089	29	Damping pad	17511246
8	Cushion	17621153	30	Dual shaft electric motor	3000250
9	Cushion	0010200120	31	Water pump motor	3000197
10	Cushion	17341291	32	Floater fixing stand	1301786
11	Air outlet	14311066	33	Water drain pipe assembly	0900093
12	Cushion	17341292	34	Connecting plate 2	1301783
13	Base platee assembly	0010800155	35	Water pump support	1301784
14	Cushion	0010200121	36	Connecting plate 1	1301782
15	Chshion	0010200122	37	Connecting plate 1	3400076
16	Long fixing tendon	0010100224	38	Fixed handle 1	1301789
17	Enclosure	0010100226	39	Fixed handle 2	1301790
18	Inlet wind connect frame	0010100227	40	Scroll case	1101205
19	Transformer	3800005	41	Left fixing plate assembly	0100743
20	Transformer case assembly	0100858	42	W ater collecting pan assembly	0900094
21	Rubber ring	1452909	43	Cushion	17621350
22	Rubber ring	1452861			

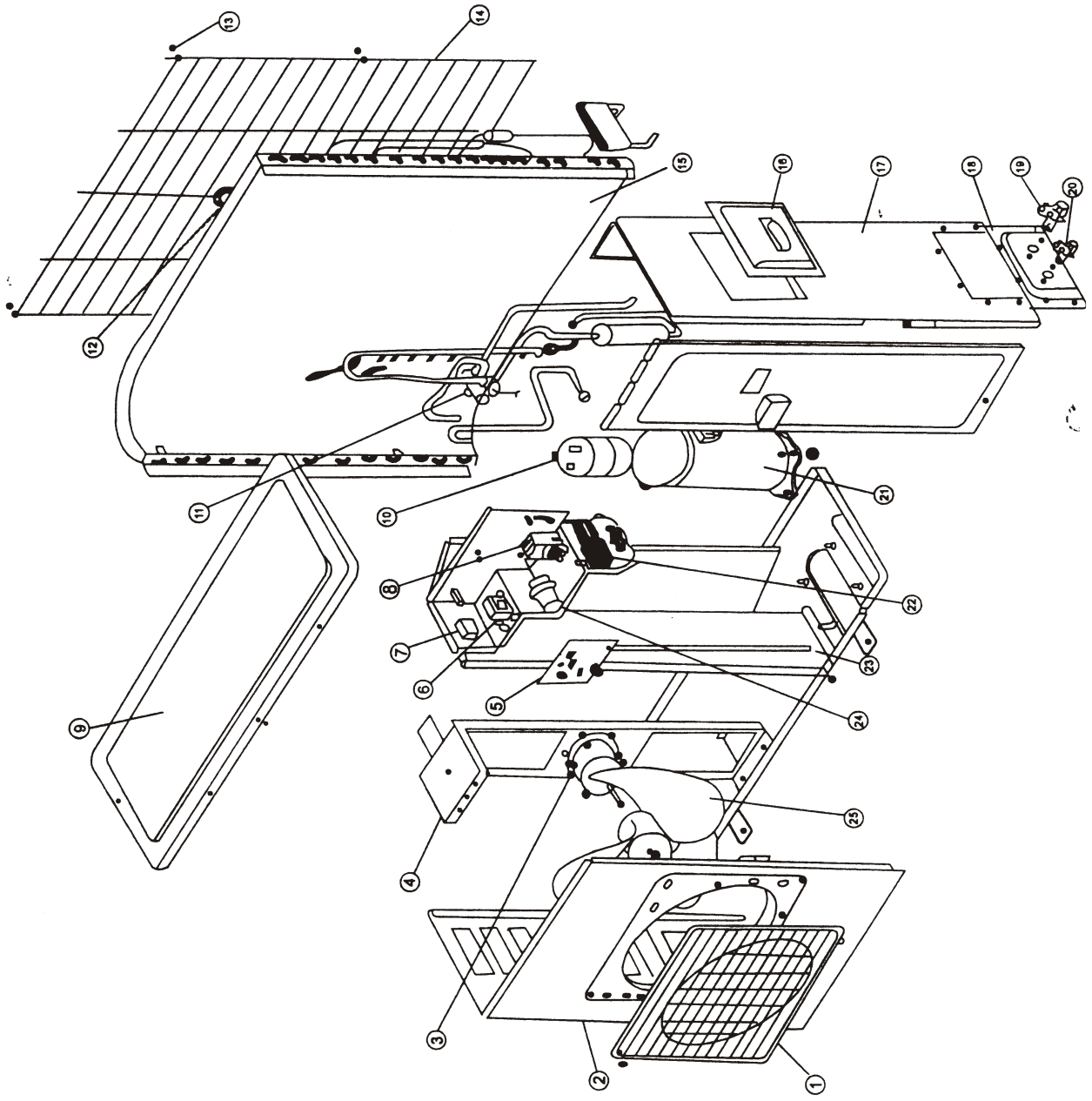
Model: HDU-28H03/M(R1)

Indoor:

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Guard plate 1	0010100223	23	PCB	3300351
2	Guard plate 2	0010100228	24	Terminal board	4000151
3	Evaporator assembly	0010750298	25	Fan capacitor	3600134
4	Right fixing plate assembly	0010800106	26	Electrical box cover assembly	0100859
5	Supporting plate assembly	0010100016	27	Fixing bolt	5002256
6	Seal ring for scroll case	1301988	28	W ater pump fixing stand	1309785
7	Centrifugal fan	2331089	29	Damping pad	17511246
8	Cushion	17621153	30	Dual shaft electric motor	3000250
9	Cushion	0010200120	31	Water pump motor	3000197
10	Cushion	17341291	32	Floater fixing stand	1301786
11	Air outlet	14311066	33	Water drain pipe assembly	0900093
12	Cushion	17341292	34	Connecting plate 2	1301783
13	Base platee assembly	0010800155	35	Water pump support	1301784
14	Cushion	0010200121	36	Connecting plate 1	1301782
15	Chshion	0010200122	37	Connecting plate 1	3400076
16	Long fixing tendon	0010100224	38	Fixed handle 1	1301789
17	Enclosure	0010100226	39	Fixed handle 2	1301790
18	Inlet wind connect frame	0010100227	40	Scroll case	1101205
19	Transformer	3800005	41	Left fixing plate assembly	0100743
20	Transformer case assembly	0100858	42	W ater collecting pan assembly	0900094
21	Rubber ring	1452909	43	Cushion	17621350
22	Rubber ring	1452861			

Outdoor

Model: HDU-28H03/M HDU-28C03/M HDU-28HA03/M(R1)



Model：HDU-28H03/M

Outdoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Front guard assy.	001A0100122	14	Guard for heat exchanger	001A0100109
2	Front panel	001A1101078	15	Condenser assy.	001A0400119
3	Fan motor	001A3000082	16	Wire cover	001A0100394
4	Motor mounting plate	001A1301321	17	Slide plate (right)	001A0100390
5	PCB	0010400212	18	Valve pedestal	001A1301506
6	Transformer	001A3800005	19	3-way valve	001A2500082
7	Fan motor capacitor	001A3600018	20	2-way valve	001A2500082
8	AC contactor	001A3900161	21	Compressor	001A2000087
9	Top cover assy.	001A0100264	22	Terminal block	001A4000011
10	Liquid reservoir	001A2101857	23	Partition plate	001A0100350
11	Pipe Assy.	001A0500376	24	Running capacitor	001A3600030
12	Rubber pad.	001A1752289	25	Axial fan	001A5402022
13	Screw	001A5002152			

Model：HDU-28C03/M

Outdoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Front guard assy.	001A0100122	14	Guard for heat exchanger	001A0100109
2	Front panel	001A1101078	15	Condenser assy.	001A0400139
3	Fan motor	001A3000082	16	Wire cover	001A0100394
4	Motor mounting plate	001A1301321	17	Slide plate (right)	001A0100390
5	PCB	----------	18	Valve pedestal	001A1301506
6	Transformer	----------	19	3-way valve	001A2500082
7	Fan motor capacitor	001A3600018	20	2-way valve	001A2500082
8	AC contactor	001A3900161	21	Compressor	001A2000087
9	Top cover assy.	001A0100264	22	Terminal block	001A4000011
10	Liquid reservoir	----------	23	Partition plate	001A0100350
11	Pipe Assy.	----------	24	Running capacitor	001A3600030
12	Rubber pad.	001A1752289	25	Axial fan	001A5402022
13	Screw	001A5002152			

Model：HDU-28HA03/M(R1)

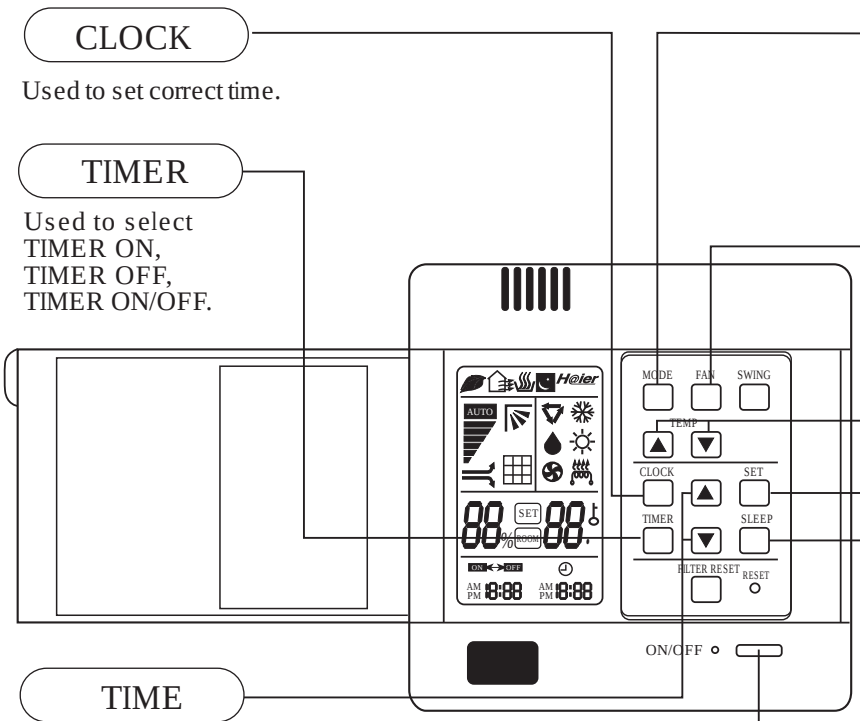
Outdoor：

N0.	Name of part	Specialized NO.	N0.	Name of part	Specialized NO.
1	Front guard assy.	001A0100122	14	Guard for heat exchanger	001A0100109
2	Front panel	001A1101078	15	Condenser assy.	001A0400119
3	Fan motor	001A3000082	16	Wire cover	001A0100394
4	Motor mounting plate	001A1301321	17	Slide plate (right)	001A0100390
5	PCB	0010400133	18	Valve pedestal	001A1301506
6	Transformer	001A3800141	19	3-way valve	001A2500154
7	Fan motor capacitor	001A3600018	20	2-way valve	001A2500153
8	AC contactor	001A3900161	21	Compressor	0010700989
9	Top cover assy.	001A0100264	22	Terminal block	001A4000011
10	Liquid reservoir	001A2101857	23	Partition plate	001A0100350
11	Pipe Assy.	0010700383	24	Running capacitor	001A3600030
12	Rubber pad.	001A1752289	25	Axial fan	001A5402022
13	Screw	001A5002152			

6. Usage and setting of the remote controller

Operation

Buttons and display of the wire controller.



CLOCK

Used to set correct time.

TIMER

Used to select
TIMER ON,
TIMER OFF,
TIMER ON/OFF.

TIME

Used to set clock and

Power ON/OFF

Used for unit start and

MODE

Used to select AUTO RUN, COOL, DRY, HEAT and FAN operation.

FAN SPEED

Used to select fan speed: LO, MED, HI, AUTO

TEMP

Used to select your

SET

Used to confirm Timer and Clock settings.

SLEEP

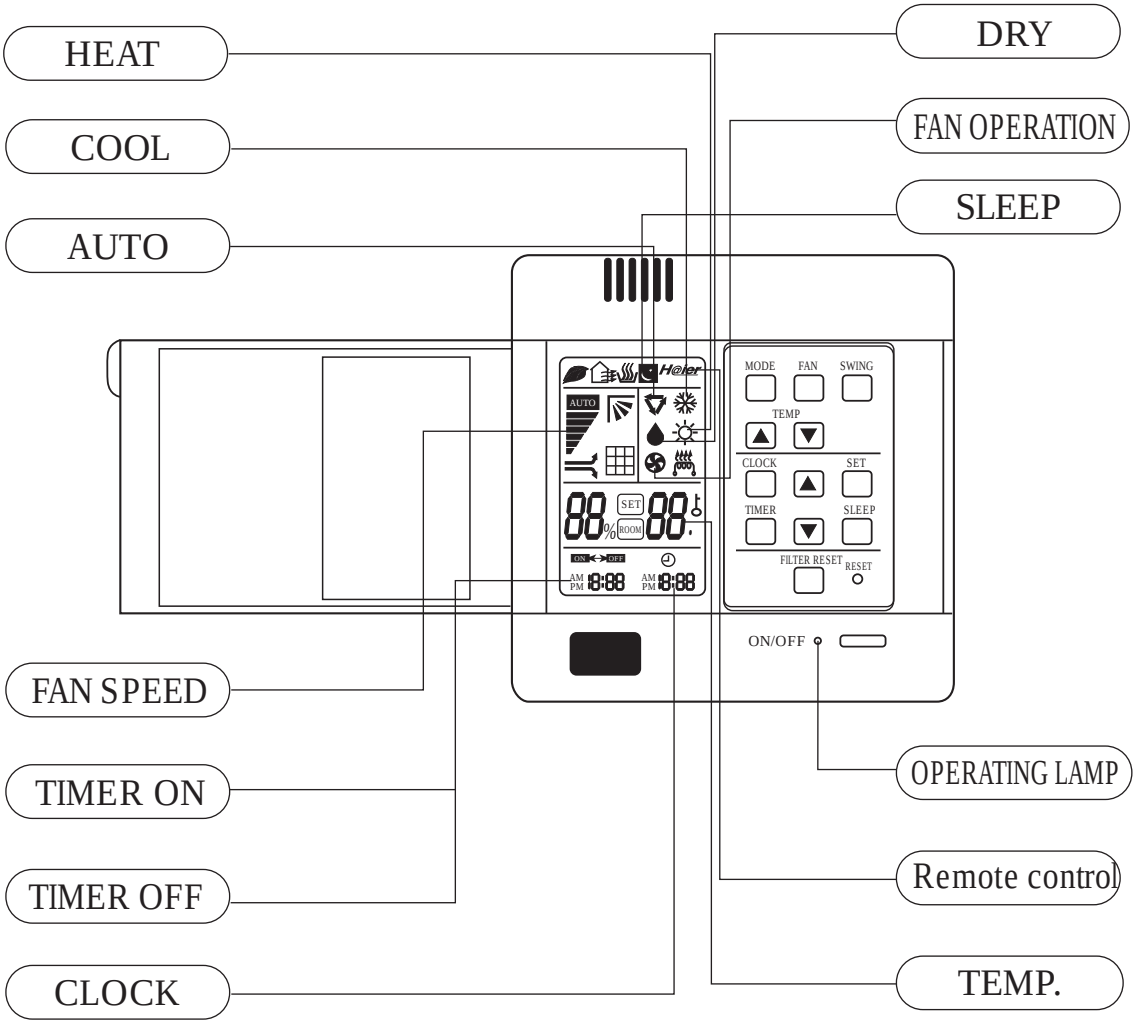
Used to select sleep

Cautions:
On cooling only unit, heating mode is not available.

Note:
The above information is the explanation of the displayed information therefore varies with those displayed in actual operation.

Operation

Buttons and display of the wire controller.

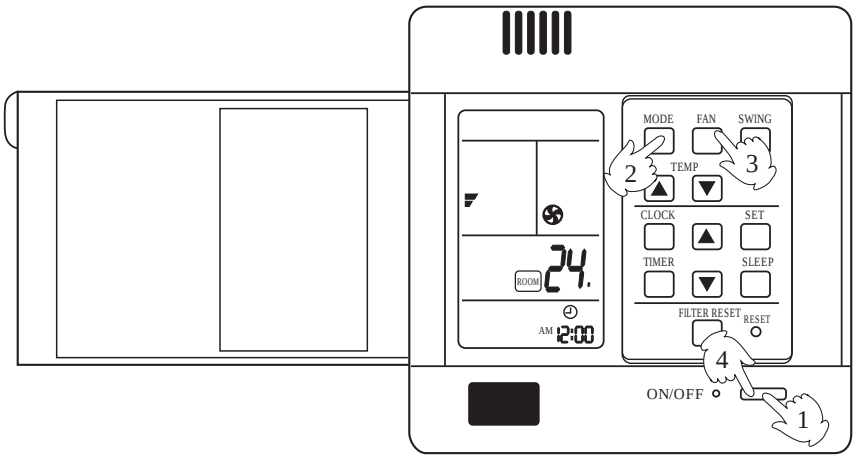


Clock set

When unit is started for the first time, clock should be adjusted as follows:

- Press CLOCK button, "AM"or "PM" flashes.
- Press▲ or▼ to set correct time. Each press will increase or decrease 1min. If the button is kept depressed, time will change quickly.
- After time setting is confirmed, press SET, "AM "and "PM" stop flashing, while clock starts working.

The air conditioner has the function of POWER FAILURE RESUME.



Fan operation

Enjoy yourself by just a gentle press.

(1) Unit start

Press ON/OFF button, unit starts.
Previous operation status appears on display.
(Not Timer setting)
Power indicator on indoor unit lights up.

(2) Select operation mode

Press MODE button. For each press, operation mode changes as follows:

AUTO → COOL → DRY → HEAT → FAN

Unit will run in selected mode.
stop display at "FAN.

For cooling only type no " HEAT " function.

(3) Fan

Press FAN button. For each press, fan speed changes as follows:

LOW → MID → HIGH

Unit will run at selected fan speed.

(4) Unit stop

Press ON/OFF button.
Only time and room temp remains on LCD.
All indicators on indoor unit go out.
Vertical flap closed automatically.

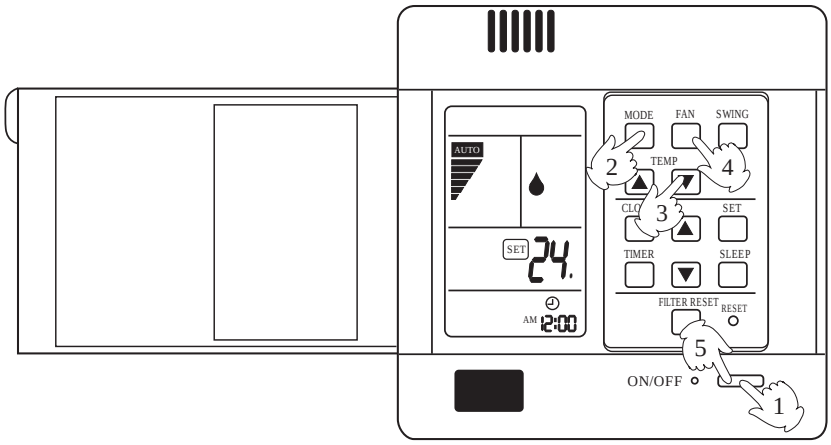
Hints

Wire controller can memorize settings in each operation mode. To run it next time just select the operation mode and it will start with the previous setting.
No reselecting is needed.(TIMER ON/OFF needs reselecting)
In FAN and AUTO mode, temp. can't be set.

AUTO RUN, COOL,HEAT and DRY operation

Recommendations

- Use COOL in summer.
- Use HEAT in winter.
- Use DRY in spring,autumn and in damp climate.



(1) Unit start

Press ON/OFF button, unit starts.
Previous operation status appears on display (Not Timer setting).Power indicator on indoor unit lights up.

(2) Select operation mode

Press MODE button. For each press, operation mode

Unit will run in operation mode displayed on LCD.
Stop display at your desired mode.

(3) Select temp. setting

Press TEMP button

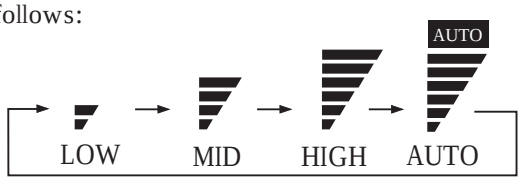
▲ Every time the button is pressed, temp. setting •.
If button is kept depressed, temp.setting will increase quickly.

▼ Every time the button is pressed, temp. setting •.
If button is kept depressed, temp. setting will decrease quickly.

Unit will start running to reach the temp. setting

(4) Fan speed selection

Press FAN button. For each press, fan speed changes as follows:



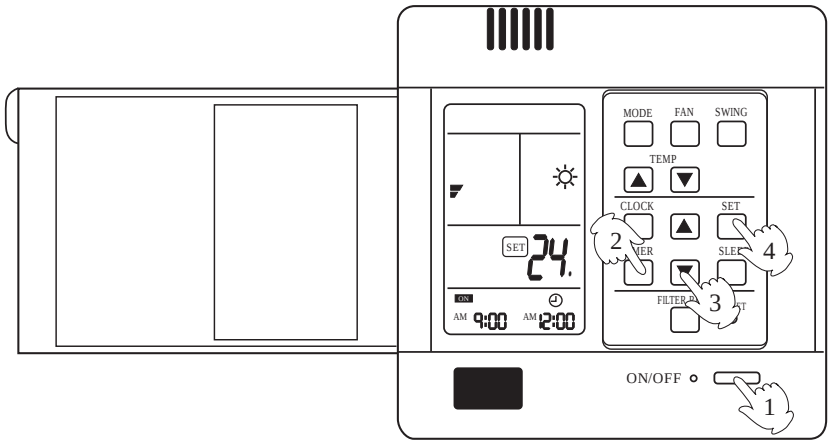
Unit runs at the speed displayed on LCD.
In HEAT mode, warm air will blow out after a short period of time due to cold-draft prevention function.
In DRY mode, when room temp. becomes 2•higher unit will run intermittently at LOW speed regardless of FAN setting.

(5) Unit stop

Press ON/OFF button.
Only time and room temp remains on LCD.
All indicators on indoor unit go out.
Vertical flap closes automatically.

Hints

Wire controller can memorize each operation When starting it next time, just press ON/OFF button and unit will run in previous status.



TIMER operation

Set Clock correctly before starting Timer operation.

You can let unit start or stop automatically at following time: Before you wake up in the morning, or get back from outside or after you fall asleep at night.

TIMER ON/OFF

(1)After unit start, select your desired

Operation mode will be displayed on LCD.
Power indicator on indoor unit lights up.

(2)TIMER mode selection

Press TIMER button to change TIMER mode.
Every time the button is pressed, display changes

Select your desired TIMER mode (ON or OFF)

(3)Timer setting

Press TIME ▲/▼ button.

▲ Every time the button is pressed, time increases 10min. If button is kept depressed, time will change quickly.

▼ Every time the button is pressed, time decreases 10min. If button is kept depressed, time will change quickly.

Time will be shown on LCD. It can be adjusted within 24hours.

(4)Confirming your setting

After setting correct time, press SET button to confirm "ON" or "OFF" stops flashing.

Time displayed: Unit starts or stops at x hour x min (ON orOFF).

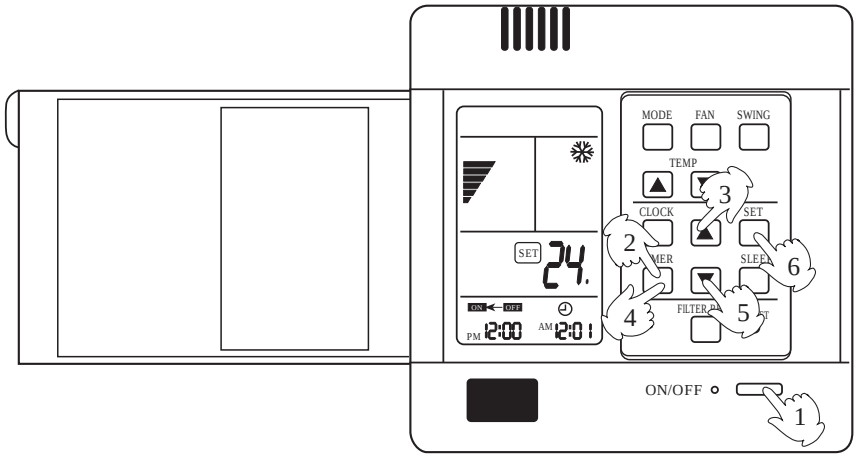
Timer mode indicator on indoor unit lights up.

To cancel TIMER mode

Just press TIMER button several times until TIMER mode disappears.

Hints

Wire controller possesses memory function, when use TIMER mode next time, just press SET button after mode selecting if timer setting is the same as previous one.



TIMER ON-OFF

(1)After unit start, select your desired

Operation mode will be displayed on LCD.
Power indicator on indoor unit lights up.

(2) Press TIMER button to change TIMER mode

Every time the button is pressed, display changes as follows:

Select $\frac{\text{ON}}{\text{OFF}}$.

(3)Time setting for TIMER ON

Press TIME button.

▲Every time the button is pressed, time increases 10min.
If button is kept depressed, time will change quickly.

▼Every time the button is pressed, time decreases 10min.
If button is kept depressed, time will change quickly.

Time will be shown on LCD.
It can be adjusted within 24hours.
AM refers to morning and PM to afternoon.

(4) Time confirming for TIMER ON

After time setting, press TIMER button to confirm. "ON" stops blinking, While "OFF" starts blinking.

Time displayed: Unit starts at Xhour X min.

(5)Time setting for TIMER OFF

Follow the same procedures in "Time setting for

(6)Time confirming for TIMER OFF

After time setting, press SET button to confirm "OFF" stops flashing.

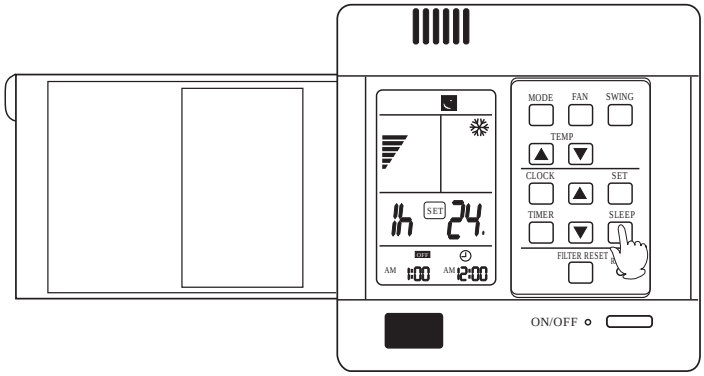
Time displayed: Unit stops at X hour X min.

To cancel TIMER mode

- Just press TIMER button several times until TIMER mode disappears.
- According to the Time setting sequence of TIMER ON or TIMER OFF, either Start-Stop or Stop-Start can

Comfortable Sleep

At night, before going to bed you can press down the SLEEP button on the controller and the air-conditioner will run by the comfortable sleeping mode to make you sleep more comfortable.



Press SLEEP button once to make the air conditioner have the previous-set sleep time (first power-on is "1h"), the sleep symbol will appear. Press time button ▲/ ▼, you can choose the time in 1~8 hours. Each press of▲/▼, the time increases/reduces 1 hour and "xh" appears in the humidity setting part, "OFF" appears in "TIMER OFF" display part and timer-off time; press SLEEP button again to cancel sleep function, the sleep symbol diappears.

In cooling, dehumidifying mode

One hour after sleeping operation start, the temp. is 1 • C higher than the setting one. After another hour the temp. rises 1 • C and then run continuously for another 6hrs' and then close. The actual temp. is higher than the setting one which is to prevent from being too cool to your sleep.

In heating mode

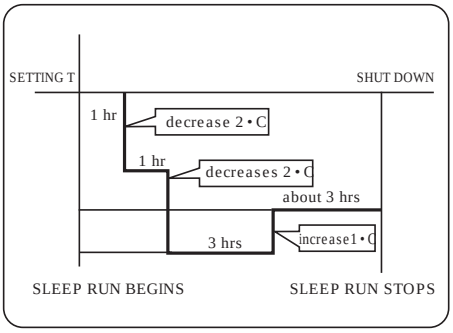
One hour after start up, the temp. decrease 2 • C lower than the setting one. After another hour decrease by more 2 • C.

The temperature will automatically rise by 1 • C after another 3hrs' operation, and then automatically close after 3hrs' continuous operation. The actral temperature is lower than the setting one which is to prevent from being too hot to your sleep.

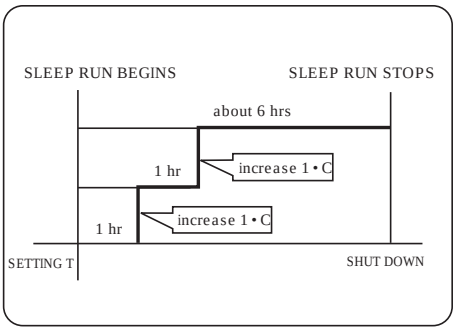
Note:

- In AUTO mode, unit will run in SLEEP function according to the operation mode.
- After setting SLEEP function, it is forbidden to calibrate clock.
- If the set sleep-time does not reach 8 hours, the unit will stop operation automatically after set

• Set "TIMER-OFF" function first, then set SLEEP, and the sleep-set is performance; set TIMER-ON function first, the sleep function can only be set before TIMER-ON; if set theSLEEP function first, the TIMER function can not be set.



Heat mode



Cooling mode

Remote Control

There is a telecommunication interface for remote control on the control panel of the indoor unit. After the peripheral equipment have been installed in accordance with the instruction manual of the selected remote control detector, the air conditioner will be computerized and controlled from a far-away place.

Power Failure Compensation (to be applied for a necessary situation)

After the power failure compensation is set, if power failure suddenly occurs while the air conditioner is working, it will resume the previous working state when the power is supplied again.

Setting Method: When the remote controller is on (excluding timer mode and fan mode), press the "Sleeping" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 4 times, the air conditioner will enter the state of power failure compensation.

Cancel Method: Press the "Sleeping" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 2 timer, the power failure compensation mode will be cancelled.

Notes: When a power failure suddenly occurs during the air conditioner is working after the power after the power failure compensation is set, if the air conditioner will not be used for a long time, please cut off the power supply to prevent its operation from being resumed after the power is supplied again, or press the "Switch On/Off" button after the power comes again.

Change-over switch

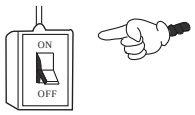
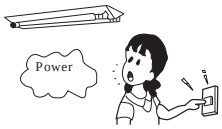
MARK	ON	OFF
1	3 level fan speed	2 level fan speed
2	AUTO mode	Varible Temp. setting Auto Mode
3	Swing	No swing
4	Display of humidity	No display of humidity

In this series changeover switch is set:

1. ON 2.OFF 3.OFF 4.OFF

please check the following things about your air conditioner before making a servie call.

Unit fails to start

Is the power source switch adjust cut in?  Power supply switch is	Is city supply power in normal?  	Isn't the signal receiving section exposed to the direct sunlight or strong illumination?	Isn't the earth leakage breaker in action? It is dangerous. Turn off the power supply switch immediately and contact the sales dealer.

Cooling or heating is not sufficient

Is the thermostat adjust as required?	Isn't the air filter dirty?	Isn't any doors or windows	Doesn't any obstacle exist at the air inlet or outlet?

Cooling is not sufficient

Isn't the swing louver horizontal? (At HEATING mode) If swing louver is horizontal, the blow wind does not reach floor.	Isn't sun-shine invading direct?	Isn't any unexpected heating load generated?	Isn't the room much crowded?

The wind does not blow during heating operation

Isn't it warming up?

page 9

When the air conditioner does not operate properly after you have checked the above mentioned items or when the following phenomenon is observed, stop the operation of the air conditioner and contact your sales dealer.

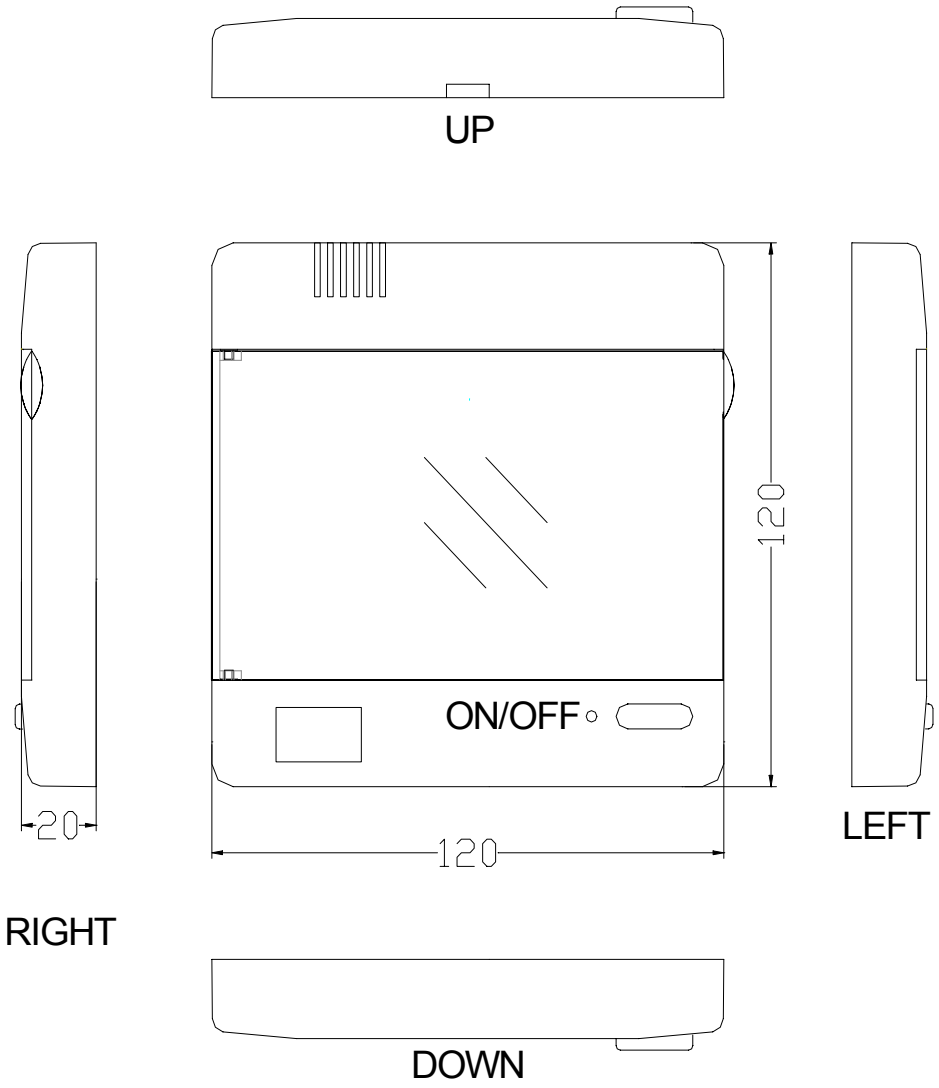
- The fuse or breaker often shuts down.
- Water drops off during cooling operation.
- There is a irregularity in operation or abnormal sound is audible.
- When the CHECK lamp (yellow) flickers, an irregularity has occurred in the air conditioner.

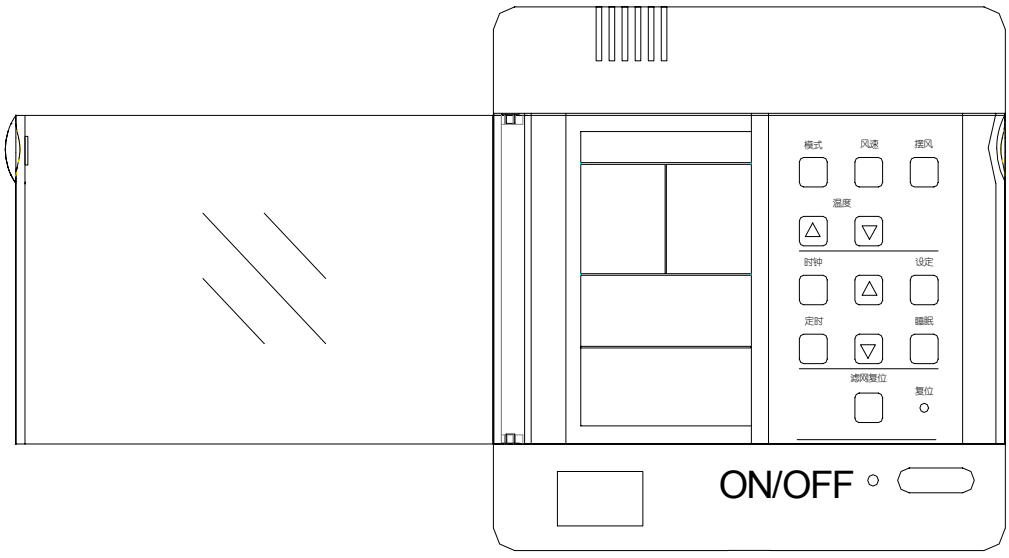
Flickering	1 Time/8 sec.	2 Time/8 sec.	3 Time/8 sec.	4 Time/8 sec.	5 Time/8 sec.	6 Time/8 sec.
Content of defect	Abnormality of	Abnormality of return air ther-mistor	Abnormality of ourdoor unit	Drain trouble	Gas is short	Overload in heating

Note:

This unit has a function of automatic restart system after recovering power stoppage. Please contact the sales dealer if it is not required.

Dimension of remote controller





7.Introduction of electrical control functions

This section includes introduction of items and electrical functions of serial machines

7.1 Introduction of electrical control functions

7.1.1 **Auto-running**

After system is on and turned to auto-running mode, the system shall first choose a suitable operation mode according to present indoor temperature. Then it shall operate under the chosen mode. Tr represents indoor temperature and Ts represents set temperature in the following choices.

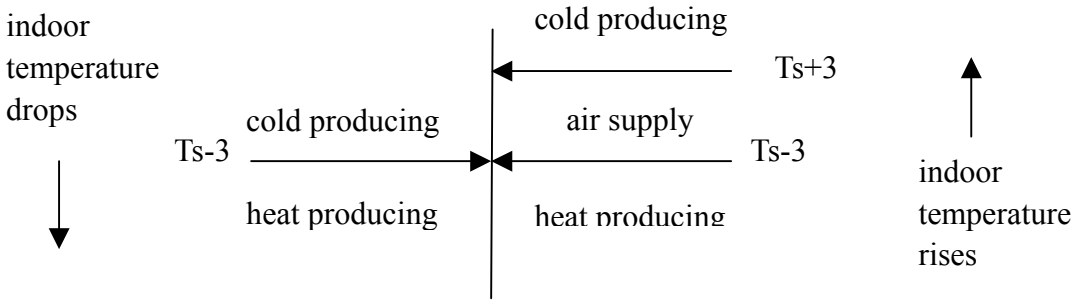
a. To both cold and heat producing machine

For the first time when the machine enters auto-running mode, it shall choose operation mode according to the following listed:

Tr ≥Ts –3°C choose cold producing mode (set temperature is Ts+3)

Tr ≤Ts-3°C choose heat producing mode (set temperature is Ts-3)

After it enters into auto-running, operating mode shall switch between cold producing and heat producing according to changes of indoor and outdoor temperature. The switching mode is as the following chart showing:



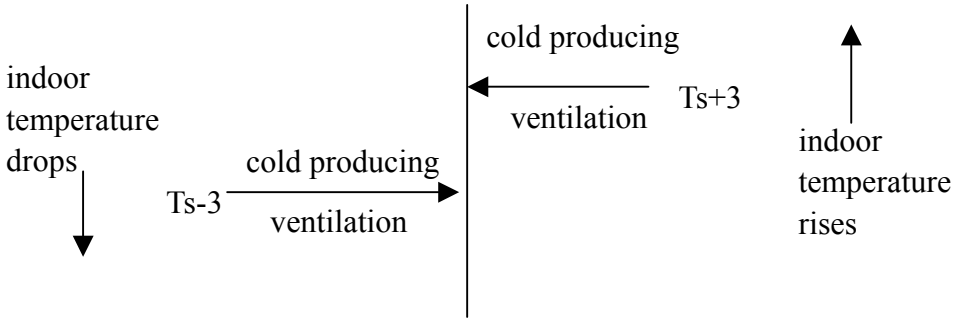
b. For only cold-producing machine

For the first time it enters auto-running mode, the system shall choose running mode according to the following listed:

Tr ≥Ts –3°C choose cold producing mode (set temperature is Ts+3 °C)

Tr ≤Ts-3°C choose ventilation mode

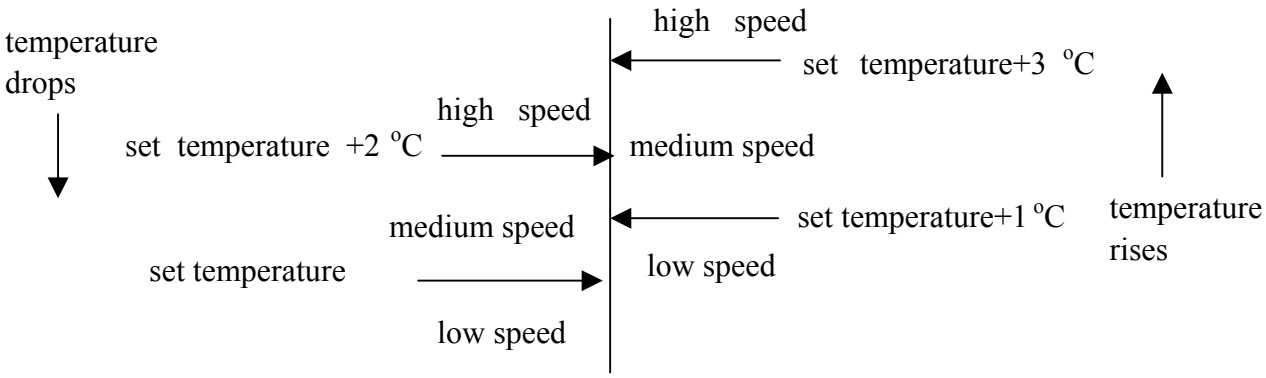
After it enters into auto-running, operation mode shall switch between cold producing and ventilation according to changes of indoor and outdoor temperature. The switching mode is as the following chart shows:



7.1.2 Auto wind speed choice

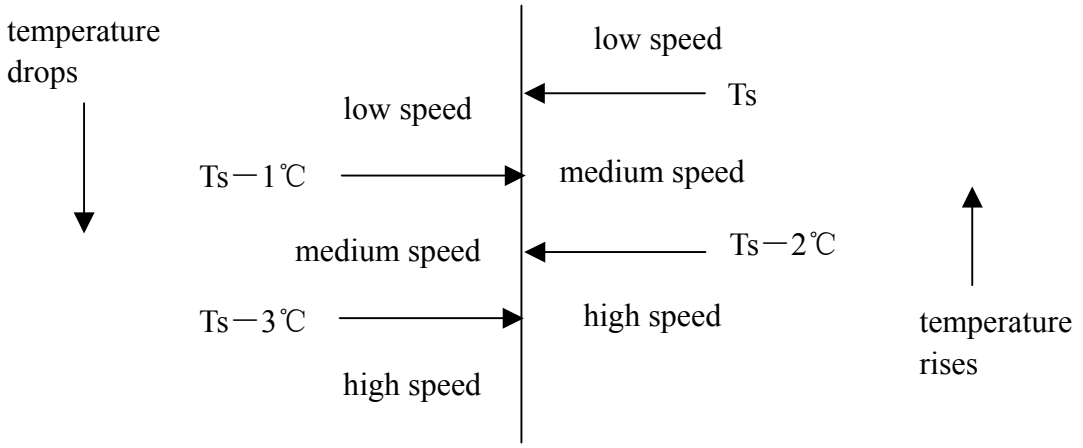
Tr herein after refers to indoor temperature and Ts refers to set temperature.

a. When machine is for cold producing and wind speed is switched from low speed to high speed, switching shall not be enabled until operation under present wind speed exceeds 3 minutes. There is no time lag when switching from high wind speed to low wind speed. Switching shall be as the following chart shows:



b. During heat producing (suitable for both heat and cold producing machine), when wind speed is switched from low to high, switching shall not be enabled until operation under present wind speed exceeds 3 minutes. There is no time lag when switching from high wind speed to low wind speed.

Switching shall be as the following chart shows:



7.1.3 Dehumidifying running

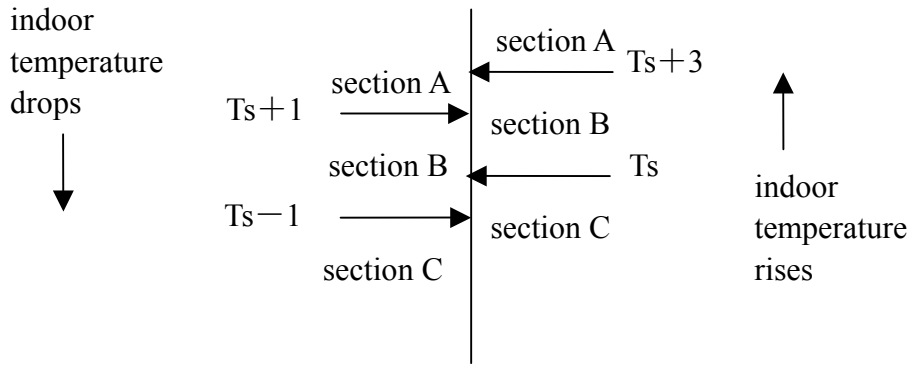
When system enters dehumidifying running, air-compressor, outdoor unit and indoor fan shall operate as the following stipulations: (Tr herein after refers to indoor temperature and Ts refers to set temperature)

7.1.3.1 Tr>Ts+2 °C, and when air compressor and outdoor fan are continuously running, indoor fan runs in set wind speed. Working section under such status is section A.

7.1.3.2 Ts≤Tt≤Ts+2 °C, air compressor and outdoor fan runs for 10 minutes with a 6 minutes' break, and indoor fan runs in low speed. Working section under such status is section B.

7.1.3.3 Tr<Ts, air compressor and outdoor fan stops running, indoor air fan runs in low speed. Working section under such status is section C.

After system enters dehumidifying operation mode, it shall switch among section A, B, and C with changes of indoor temperature. Switching of operation mode is as the following chart shows:



7.1.4 Over-heating cut-off protection (suitable for both cold and heat producing machine)

Under heat producing mode, if indoor air fan is on and air compressor has been running for over 30 seconds, detecting indoor vent pipe temperature and transferring it outdoor. When indoor vent pipe temperature is above 53°C, outdoor air fan shall operate in low speed. Whenever indoor vent pipe temperature is lower than 50 °C, outdoor air fan shall get back to high speed operation. If indoor vent pipe temperature is above 56 °C, outdoor air fan shall stop running. Whenever indoor vent pipe temperature is lower than 53 °C, outdoor air fan shall get back to low speed operation. When indoor board receives signals of outdoor air fan off from outdoor board for over 2 minutes, if indoor vent pipe temperature is over 70 °C, or indoor vent pipe temperature is over 56 °C after 10 minutes, it shall send stop operation signal to outdoor air compressor. After air compressor stops running, if detected indoor vent pipe temperature is lower than 46 °C and air compressor has been out of operation for over 3 minutes, it shall send signals for starting operation to outdoor air compressor and enable it back to operation. Control of outdoor air fan shall be carried out outdoor.

If indoor air vent temperature is above 59°C, the low speed rank of indoor air fan shall be of no effect and it shall switch into medium speed operation automatically. When indoor air vent temperature is above 63 °C, indoor air fan shall switch into high speed rank automatically. When indoor air vent temperature replaces to below 53 °C, air fan shall get back to operate in original speed. Outdoor MCU is adopted for carrying out over-heating protection according to temperature value.

7.1.5 Cold wind preventing in heat producing (suitable for heat and cold producing machine)

For the first time the machine enters heat-producing mode or when the last defrosting completes, if indoor vent pipe temperature equals to or above 28 °C and lower than 38 °C, indoor air fan shall run in low speed. Whenever indoor vent pipe temperature is higher than 38 °C or air compressor has been operating for more than 4 minutes, indoor air fan shall run in set wind speed.

7.1.6 Blowing of left heat during heat producing (suitable for cold and heat producing machine)

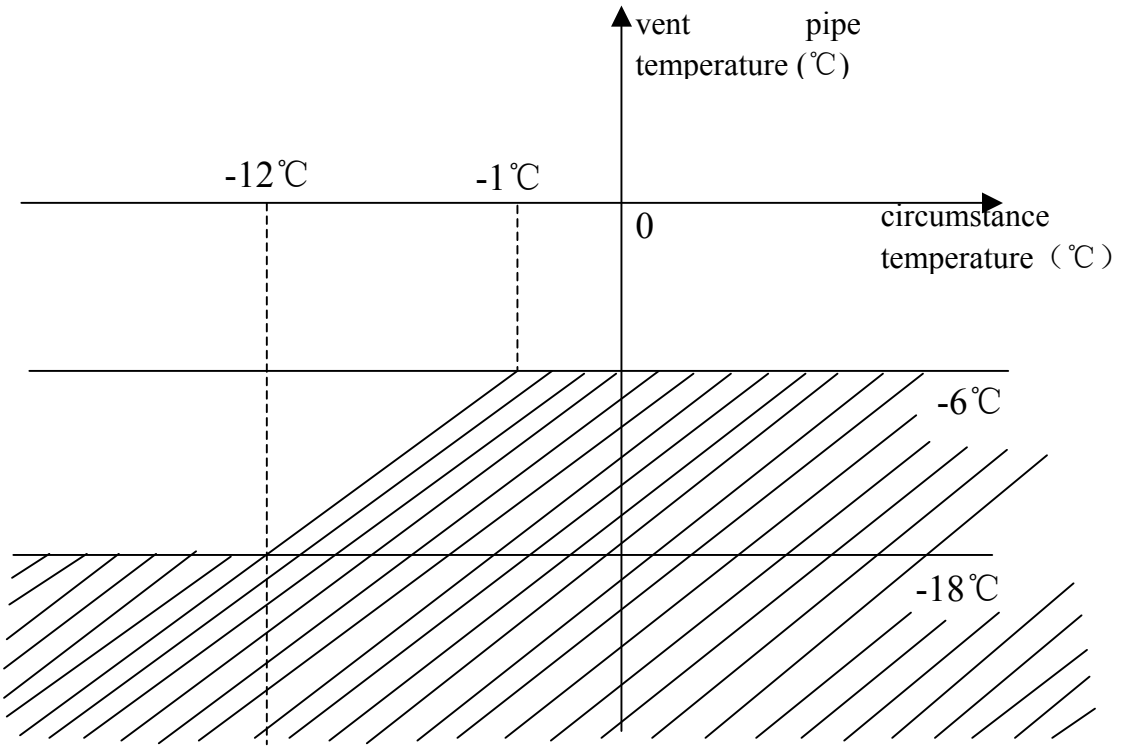
When air compressor is out of operation during heat producing or heat producing is turned off, indoor air compressor shall run in low speed for 50 minutes and then stop running.

7.1.7 Auto defrosting control (suitable for cold and heat producing machine)

7.1.7.1 Conditions for defrosting starts:

a. Machine enters into heat producing and air compressor has been running continuously for over 35 minutes.
b. Air compressor has been continuously running for over 5 minutes and the accumulated running time of air compressor is over 40 minutes.

When one of the above conditions is met and temperature is within the scope shown in shadow in the following chart, defrosting shall start.



7.1.7.2 Conditions for defrosting stops

When outdoor vent pipe temperature equals to or higher than 14 ^{o}C, or defrosting has been lasting for more than 12 minutes, defrosting shall end and send signals of defrosting releasing to outdoor.

7.1.7.3 After defrosting starts, elements shall carry out the following actions:

During defrosting, air compressor and all-direction valve shall be commanded indoor. Outdoor air fan is controlled outside. The specific actions are as following listed:

Air compressor and outdoor air fan stops. Meanwhile indoor air fan stops operating. After 55 seconds, switching-direction valve turns off and after another 5 seconds, air compressor starts. After defrosting completes, air compressor shall stop operating and outdoor air fan shall run in high speed. After 55 second, switching-direction valve turns on and after another 55 minutes, air compressor gets back to operation. Indoor air fan operates under anti-cool wind conditions.

Manual defrosting

When manual defrosting signal is sent from the panel, indoor and outdoor unit shall operate defrosting function without testing of each defrosting condition. The defrosting process is the same as automatically defrosting. Exiting condition is defrosting time shall exceed 5 minutes.

7.1.8 Test of water fill and control of drainage pump

a. Under cold producing mode (including automatically cold producing operation) and dehumidifying mode, air compressor turns on and water pump then starts working. When air compressor is turned off, water pump shall be turned off after 5 minutes.

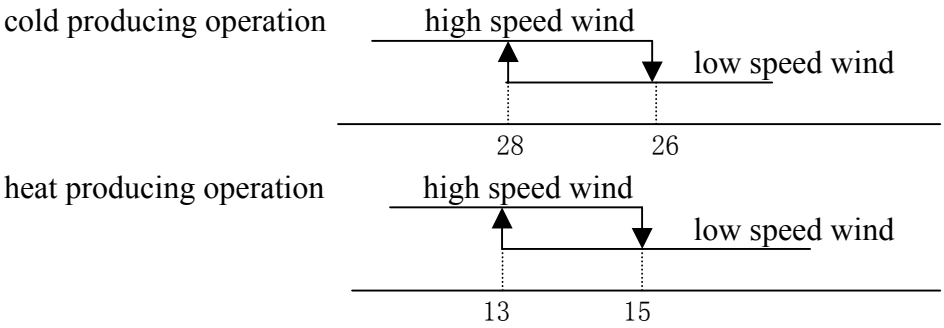
b. After water tanker is full, floater switch shall break. When controller detects this signal, pump shall get into operating. After floater replaces, water pump shall continue working for 5 minutes.

c. Whenever water full signal is detected continuously for over 5 minutes, pump lamp shall blink for alarming. Air compressor shall stop working and pump shall be on for 5 minutes with every 5 seconds break. After floater replaces, there is a time lag of 5 minutes and then the pump stops running.

7.1.9 3 minutes' protection for air compressor

After air compressor stops running, it shall not be re-operated until 3 minutes later. Whenever system is out of power during operation for less than 3 minutes, air compressor shall re-operate at least after 3 minutes when power on again.

7.1.10 Control of outdoor air fan (suitable for cold and heat producing machine)



Wind speed switching shall only be possible after at least 45 seconds' of operation in present operating speed.

7.1.11Over current protection

When air compressor is on for more than 40 seconds, if air compressor current is higher than 15.5/12.6A (voltage of current testing orifice is 2.58V) and lasts for more than 10 seconds, outdoor air fan shall switch into low wind speed operation. When current is lower than 13.5/11A(2.22V), outdoor air fan shall then get back to high speed operation. When current is higher than 18/14.7A(3.07V) and lasts for 10 seconds, outdoor fan shall then stop operating. When operating current is lower than 16.5/12.7A(2.80V), outdoor unit shall get back to low speed operation. (wind speed switching frequency shall be higher than 30 seconds). After air compressor operates for 5 minutes, if operating current is higher than 26/21A(4.25V) and lasts for 5 second, air compressor shall then stop operating and get back to work after 3 minutes. If air compressor protection occurs 3 times within 30 minutes, air compressor shall not operate again and shall transmit error code to indoor unit. E5 shall be shown on linear controlling machine panel. Only after power is on again after being cut off, protection shall be released.

7.1.12 Pressure protection

Pipe circuit pressure shall be tested after air compressor operates for more than 8 minutes. When pipe circuit pressure is too high, air compressor and outdoor air fan shall stop operating and get back to operation 3 minutes later. Pipe circuit pressure shall be retested 8 minutes after air compressor re-operates. The above procedure shall be repeated. System shall stop operating if air compressor stops operation for 3 times within 30 minutes due to over-pressure in pipe circuit and then it shall transmit error code to indoor unit. E6 shall appear on linear controlling machine panel. Only after power is on again after being cut off, protection shall be released.

7.1.13 Power cut-off memory function

When power being cut-off, repaired for faults, or operating stopped for fixing occurs during operation, the system shall re-operate under previous conditions after power is on.

P.S：

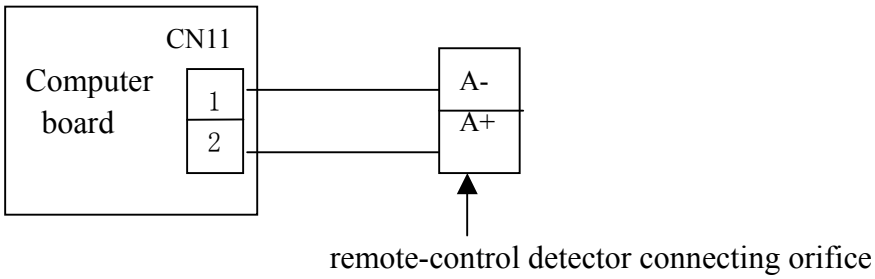
a. Function set: press sleeping key continuously for 10 times within 5 seconds, panel beeper rings for 4 times.
b. Memory items: operation mode, set wind speed, set temperature, wind swing situation, electrical heating situation, and health function situation.

c. Function cancellation: press the sleeping key for 10 times using the controller and then panel beeper rings for two times.

7.1.14 Remote network monitoring and controlling function

Air conditioner is connected to remote controlling detector (manufactured by Haier) for tele-communication through prefabricated orifice on main board by two-core wire, and it shall carry out orders form the computer or centralized controller through remote-control detector. Meanwhile, air conditioner shall send its present operation situation and error information to remote-control detector.

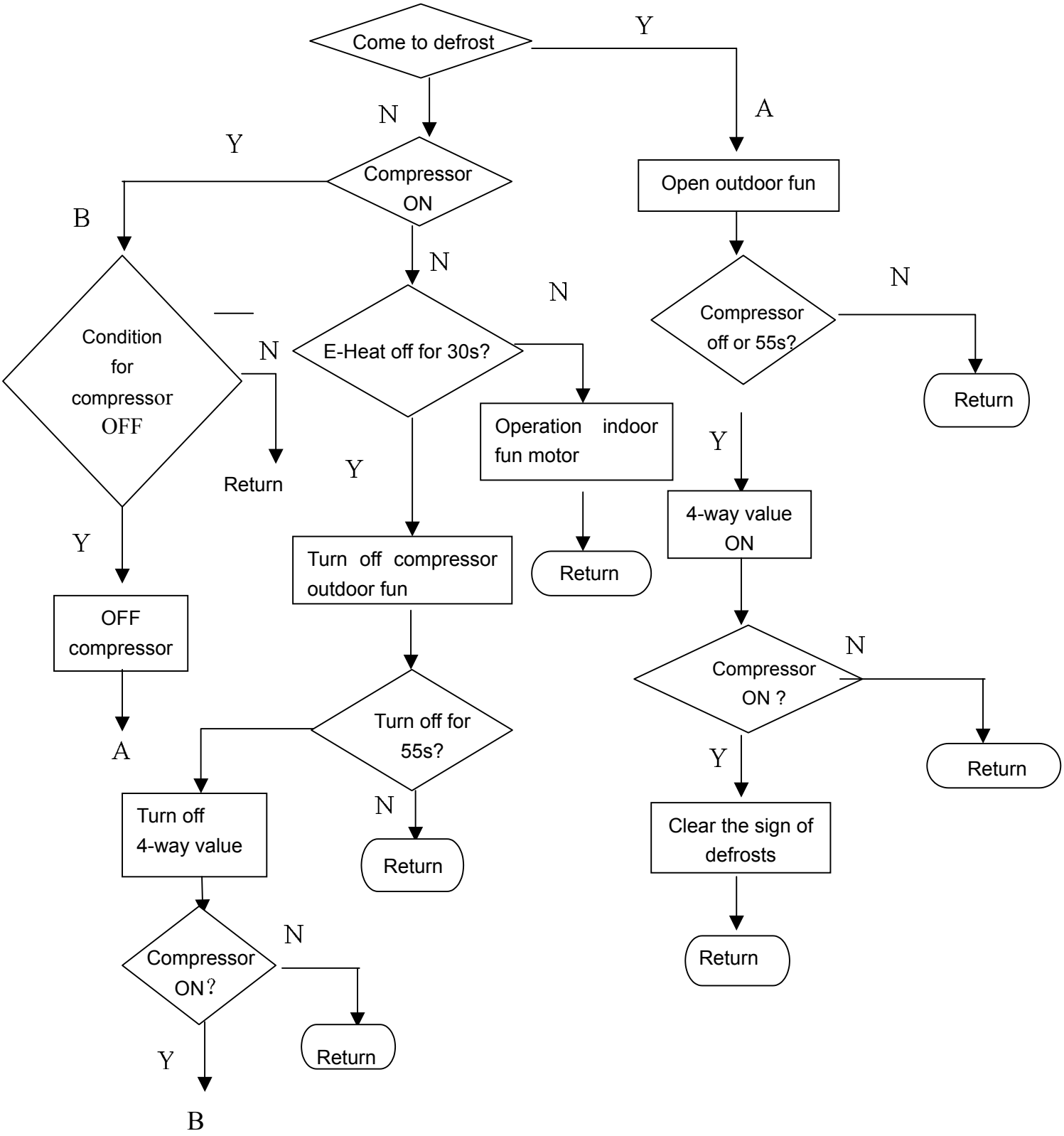
The following drawing is connection of air conditioner with remote-control detector



7.1.15 Trail run

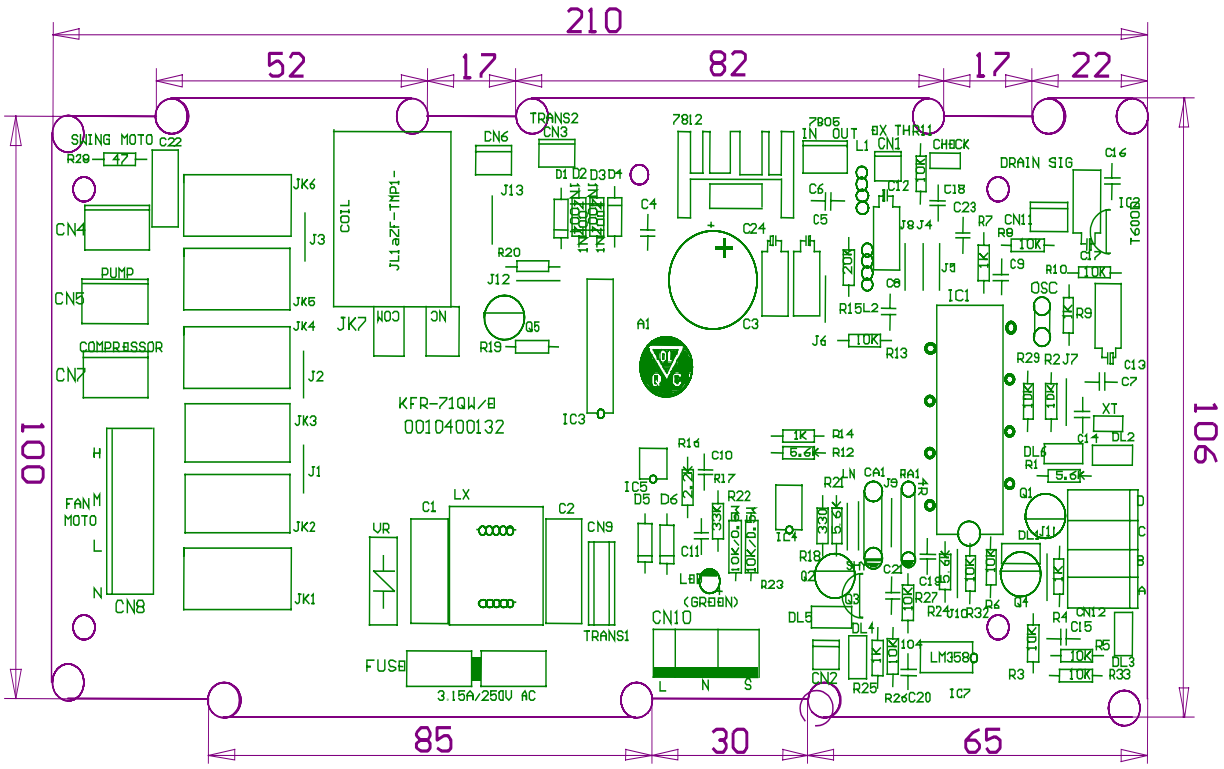
After receiving compelled cold producing signal from the board, main unit shall operate for cold making, outdoor air fan shall be high speed operating, and air compressor shall starts operating. After outdoor air fan operates in high speed for more than 5 minutes, it shall switch into cold making mode and send signal to outdoor. The system shall not carry out any protection and shall be beyond environment temperature restrictions within 5 minutes. Air compressor shall be under restrictions of 3 minutes protection.

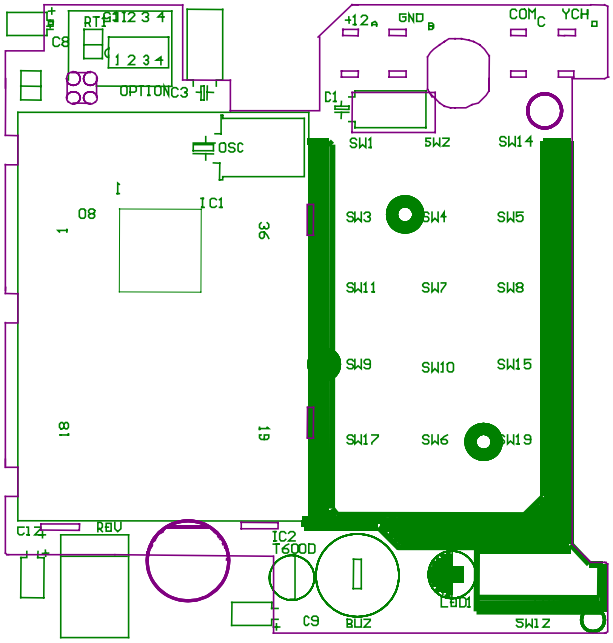
7.2 Defrost operation Flow Chart



7.3 Circuit layout plane in printed circuit board and parameter of main elements

Circuit Layout plane of in printed circuit board



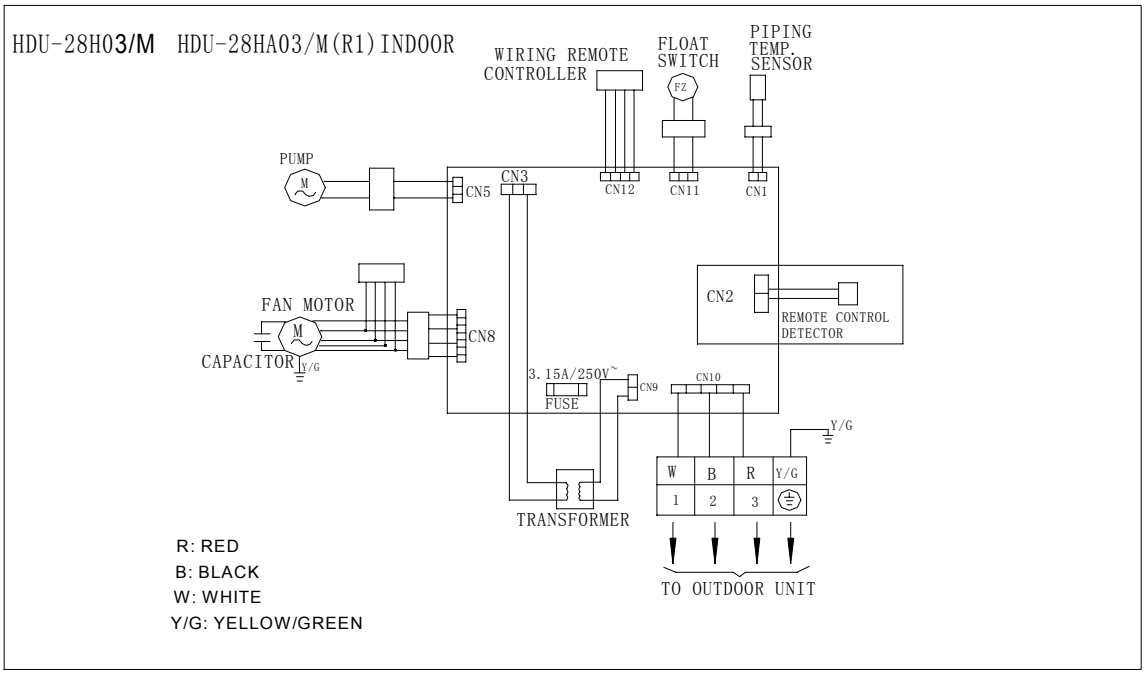


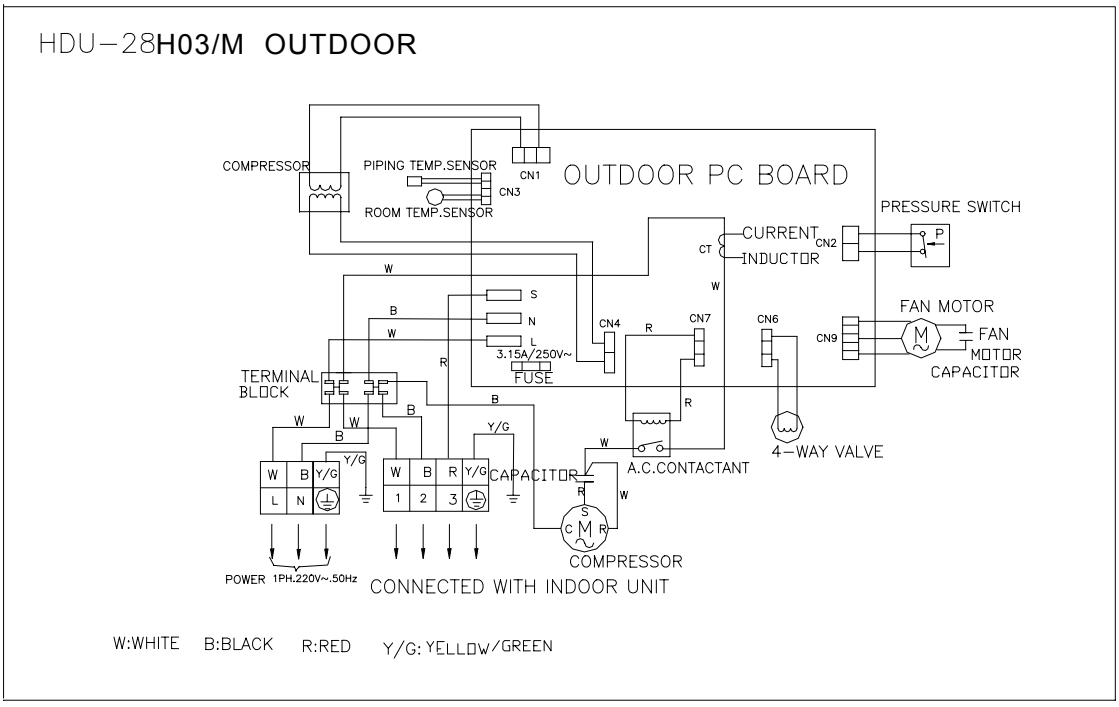
Parameter chart of main elements

No of sequence	Name	Type of elements	Quantity	Unit	Code	Remarks
1	Power resistance	RJ15 10K/0.5W	2		R22R23	Zibo Liu Factory, Tianjin Xinda
2	Precise resistance	RJJ14 20K	1		R15	Zibo Liu Factory, Tianjin Xinda
3	Capacitance	CC1 102/63V	1		C8	Hongming Guangdong Fenghua Handan Hongda
4	Ceramic crystal vibrator	8MHz CSTS0800MG03	1		OSC	AVX
5	Ray couple	TLP521-1 GR	1		IC5	TOSHIBA
6	Ray couple	TLP371	1		IC4	Provided by Haier
7	Voltage balancing block	7805	1		7805	ST Guoban TI
8	Voltage sensitive resistance	550NR-14D S14KV561	1		VR(with protection cover)	Northern land of Japan Simens
9	Fuse	F3.15A 250VL	1			Suzhou Lite
10	Relay	JQ1aP-12V	3		JK1 JK5 JK6	Japan Panasonic
11	Relay	JQ1P-12V	2		JK6	Japan Panasonic

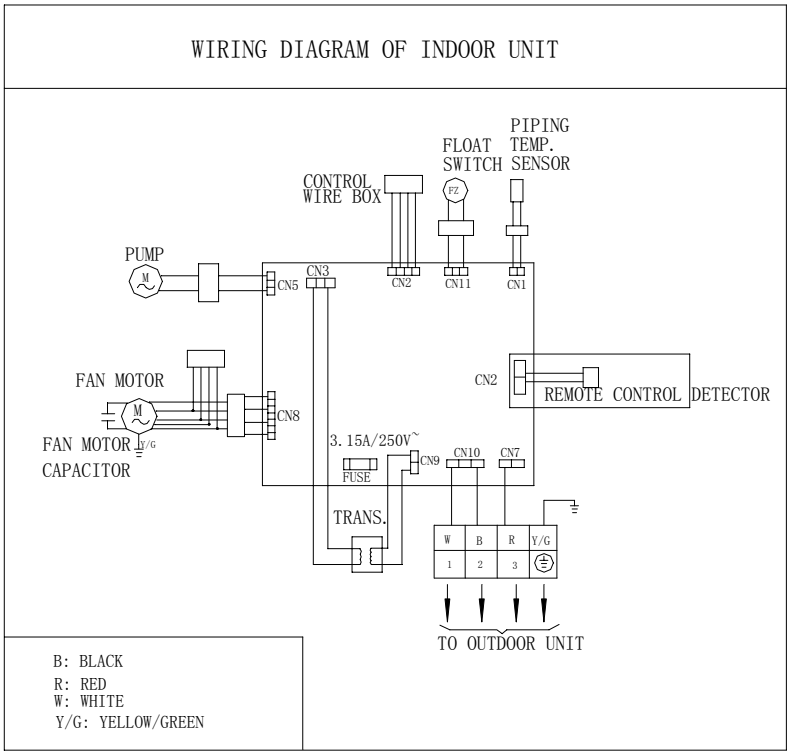
7.4 Wiring Diagrams

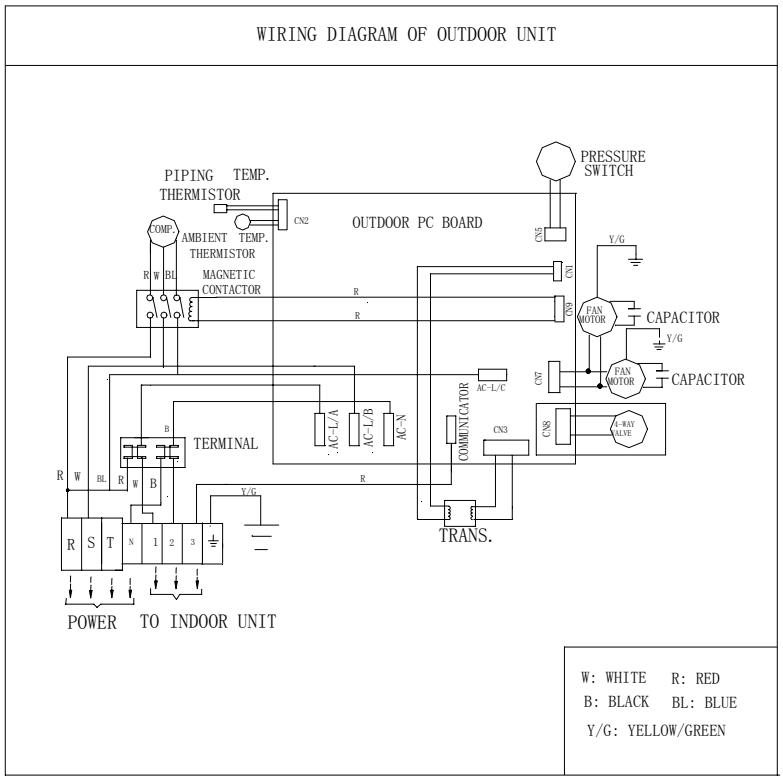
(1) HDU-28H03/M HDU-28HA03/M(R1)



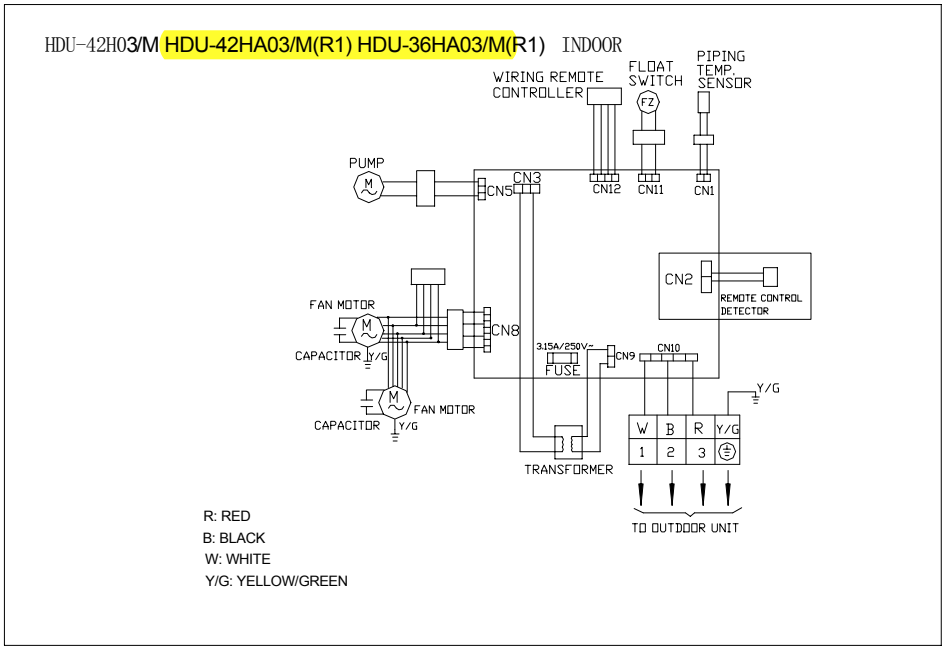


(2) HDU-28C03/M

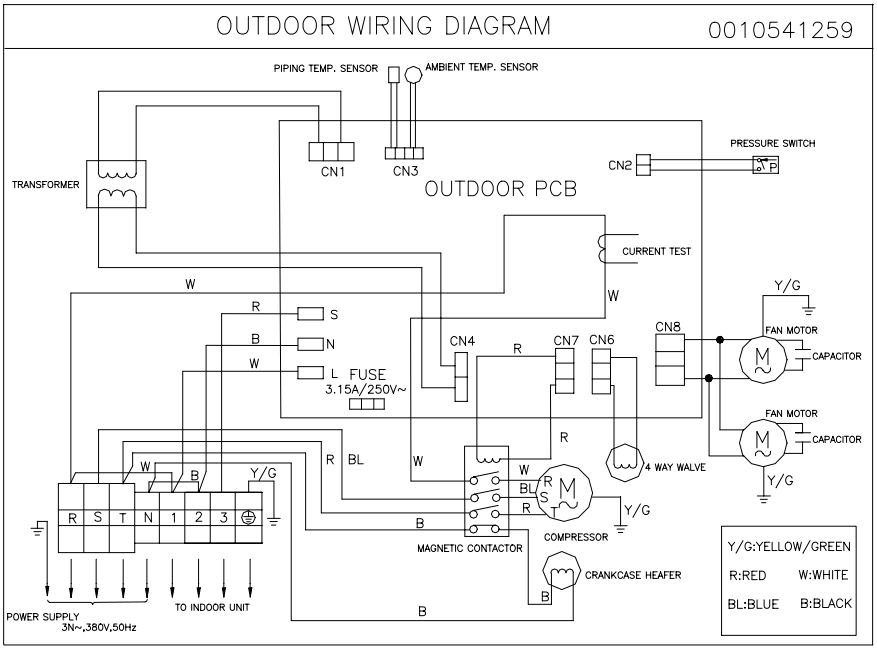

WIRING DIAGRAM OF INDOOR UNIT
PIPING TEMP. SENSOR
FLOAT SWITCH
CONTROL WIRE BOX
PUMP
CN5
CN3
CN2
CN11
CN1
FAN MOTOR
CN8
FAN MOTOR CAPACITOR
Y/G
CN2
REMOTE CONTROL DETECTOR
3.15A/250V~
FUSE
CN9
CN10
CN7
TRANS.
W
B
R
Y/G
1
2
3
TO OUTDOOR UNIT
B: BLACK
R: RED
W: WHITE
Y/G: YELLOW/GREEN


WIRING DIAGRAM OF OUTDOOR UNIT
PRESSURE SWITCH
PIPING TEMP. THERMISTOR
CN2
OUTDOOR PC BOARD
COMP.
AMBIENT TEMP. THERMISTOR
R W BL
MAGNETIC CONTACTOR
CN4
CN5
CN6
Y/G
FAN MOTOR
CAPACITOR
CN7
AC-L/C
COMMUNICATOR
CN3
CN8
4-WAY VALVE
AC-L/A
AC-L/B
AC-N
TERMINAL
R W BL R W B
Y/G
R S T N 1 2 3
TRANS.
POWER
TO INDOOR UNIT
W: WHITE
R: RED
B: BLACK
BL: BLUE
Y/G: YELLOW/GREEN

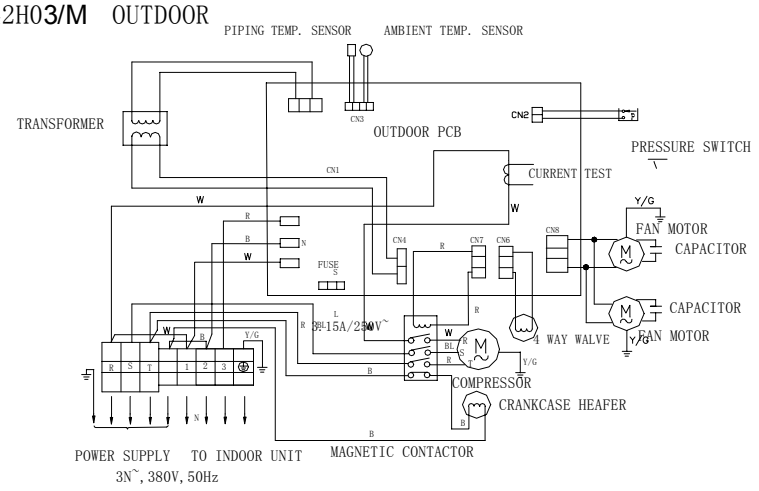
(3) HDU-42H03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1)



HDU-42HA03/M(R1) HDU-36HA03/M(R1)

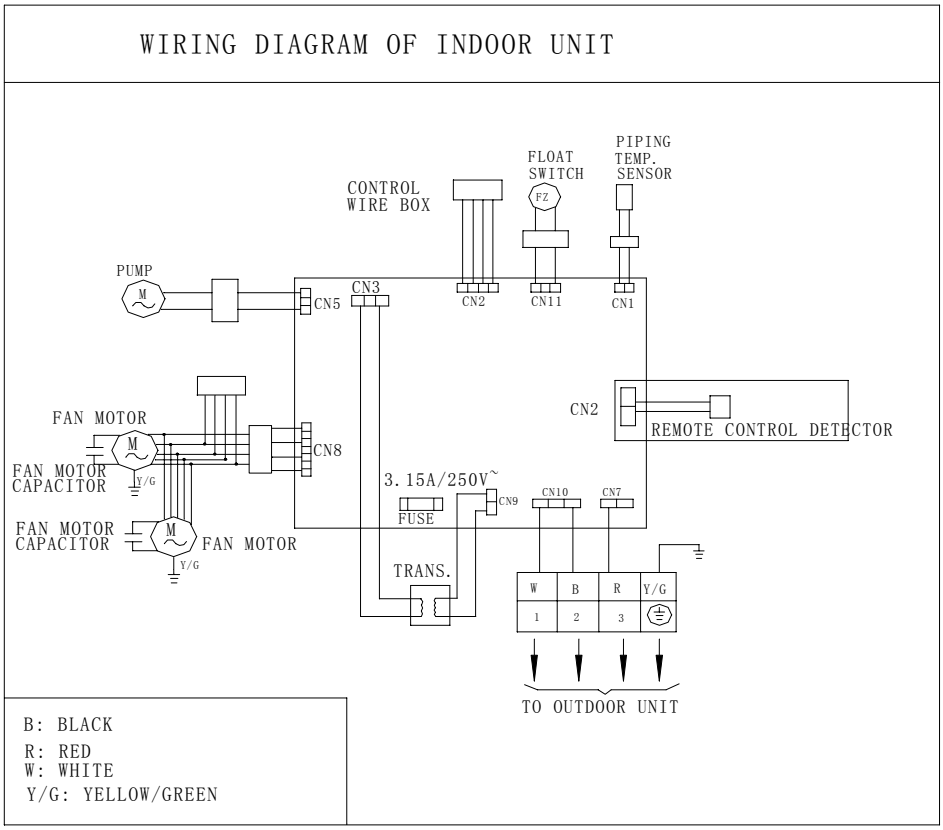


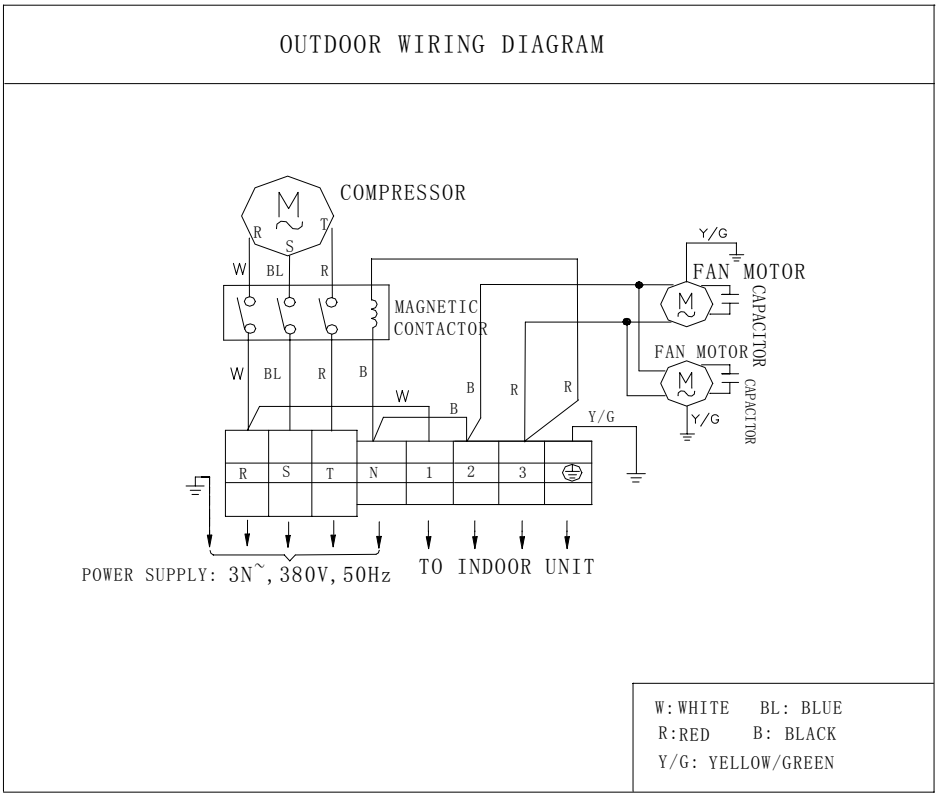
HDU-42H03/M OUTDOOR



Y/G:YELLOW/GREEN R:RED W:WHITE BL:BLUE B:BLACK

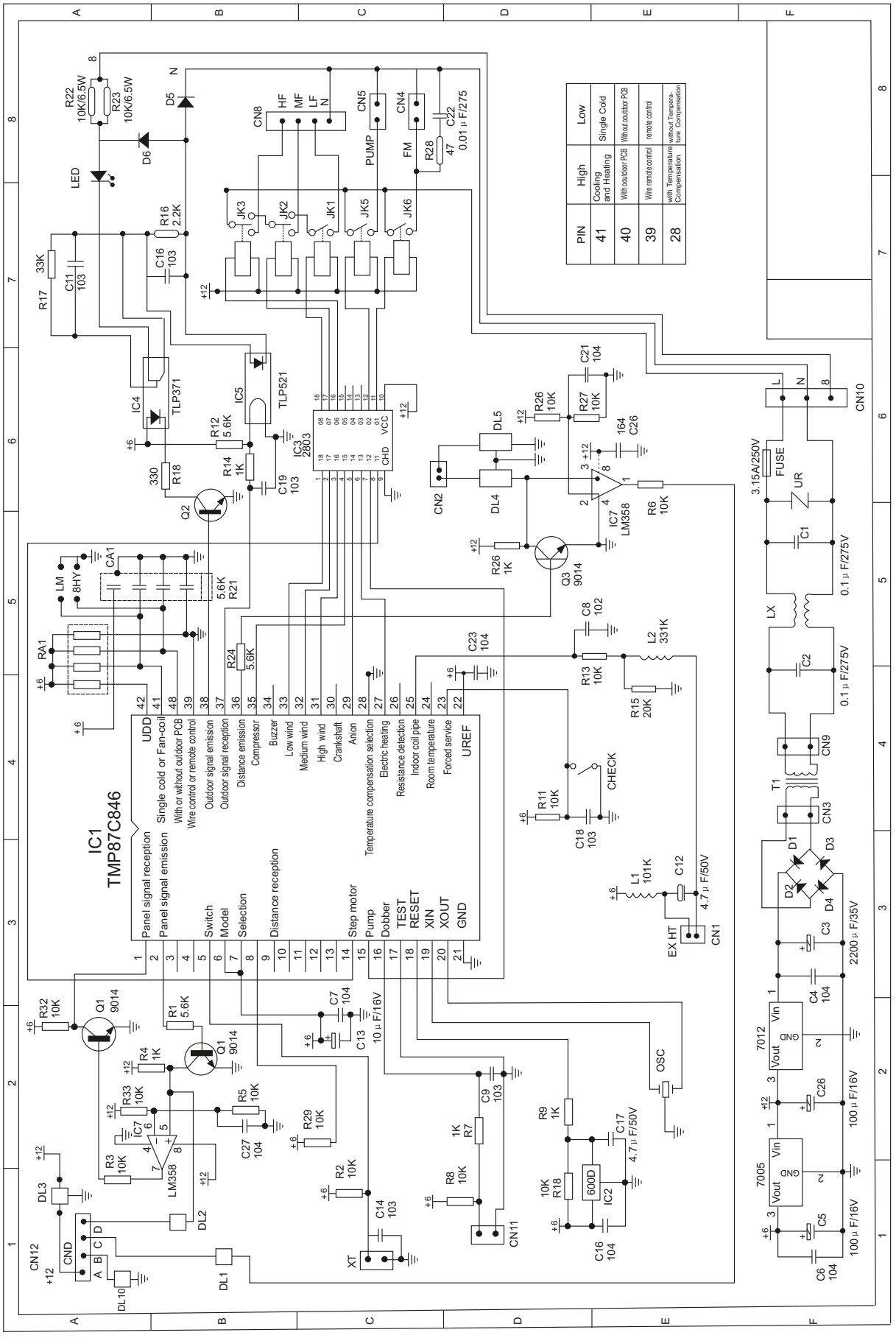
(3) HDU-42C03/M


WIRING DIAGRAM OF INDOOR UNIT
CONTROL WIRE BOX
FLOAT SWITCH
FZ
PIPING TEMP. SENSOR
PUMP
M
CN5
CN3
CN2
CN11
CN1
FAN MOTOR
CN8
FAN MOTOR CAPACITOR
Y/G
FAN MOTOR CAPACITOR
FAN MOTOR
CN2
REMOTE CONTROL DETECTOR
3.15A/250V~
FUSE
CN9
CN10
CN7
TRANS.
W B R Y/G
1 2 3
TO OUTDOOR UNIT
B: BLACK
R: RED
W: WHITE
Y/G: YELLOW/GREEN

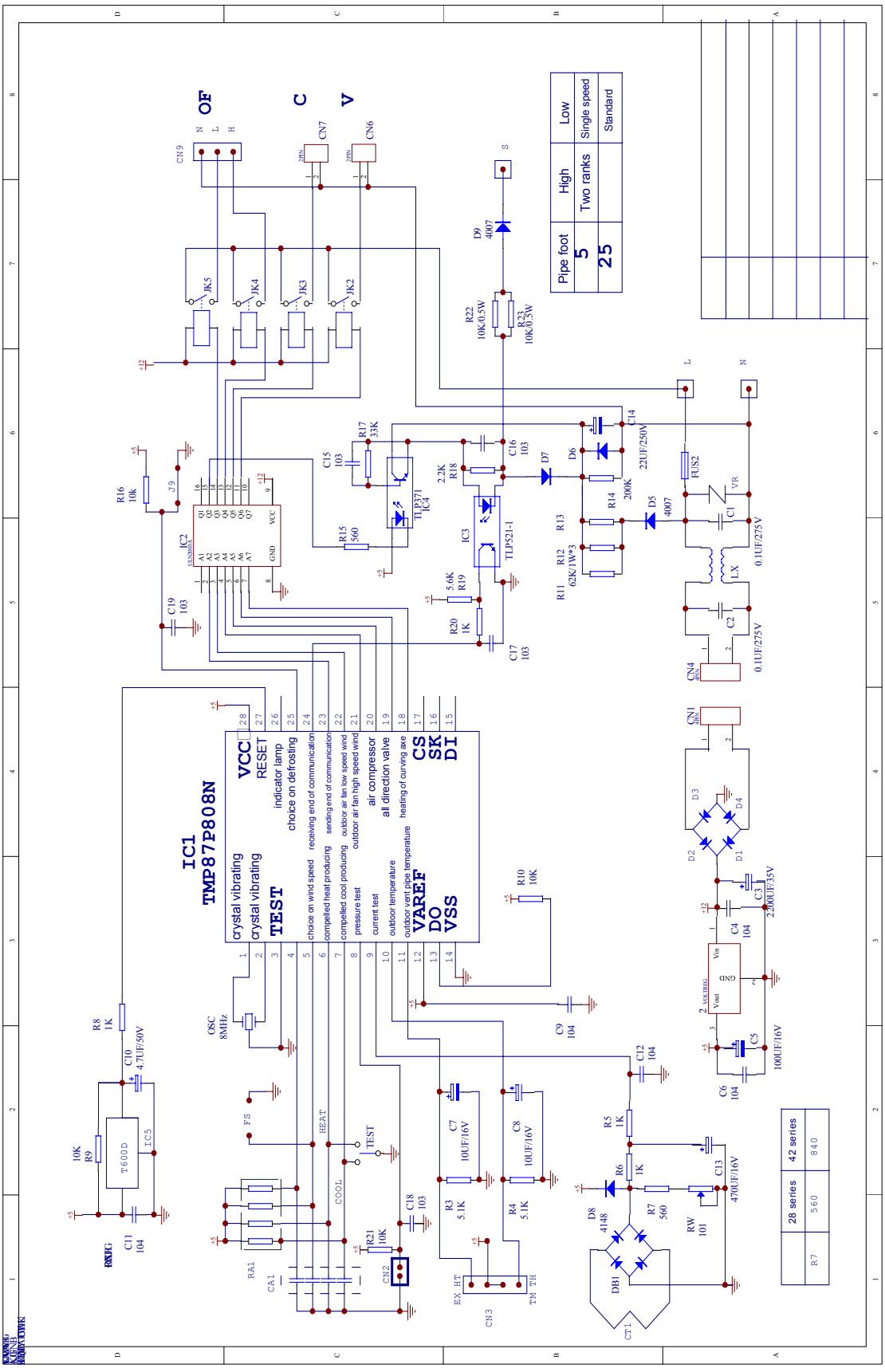

OUTDOOR WIRING DIAGRAM
COMPRESSOR
R S T
W BL R
MAGNETIC CONTACTOR
Y/G
FAN MOTOR
CAPACITOR
FAN MOTOR
CAPACITOR
W BL R B
W B R R
B
Y/G
R S T N 1 2 3
POWER SUPPLY: 3N~, 380V, 50Hz
TO INDOOR UNIT
W: WHITE BL: BLUE
R: RED B: BLACK
Y/G: YELLOW/GREEN

8.Electrical diagram

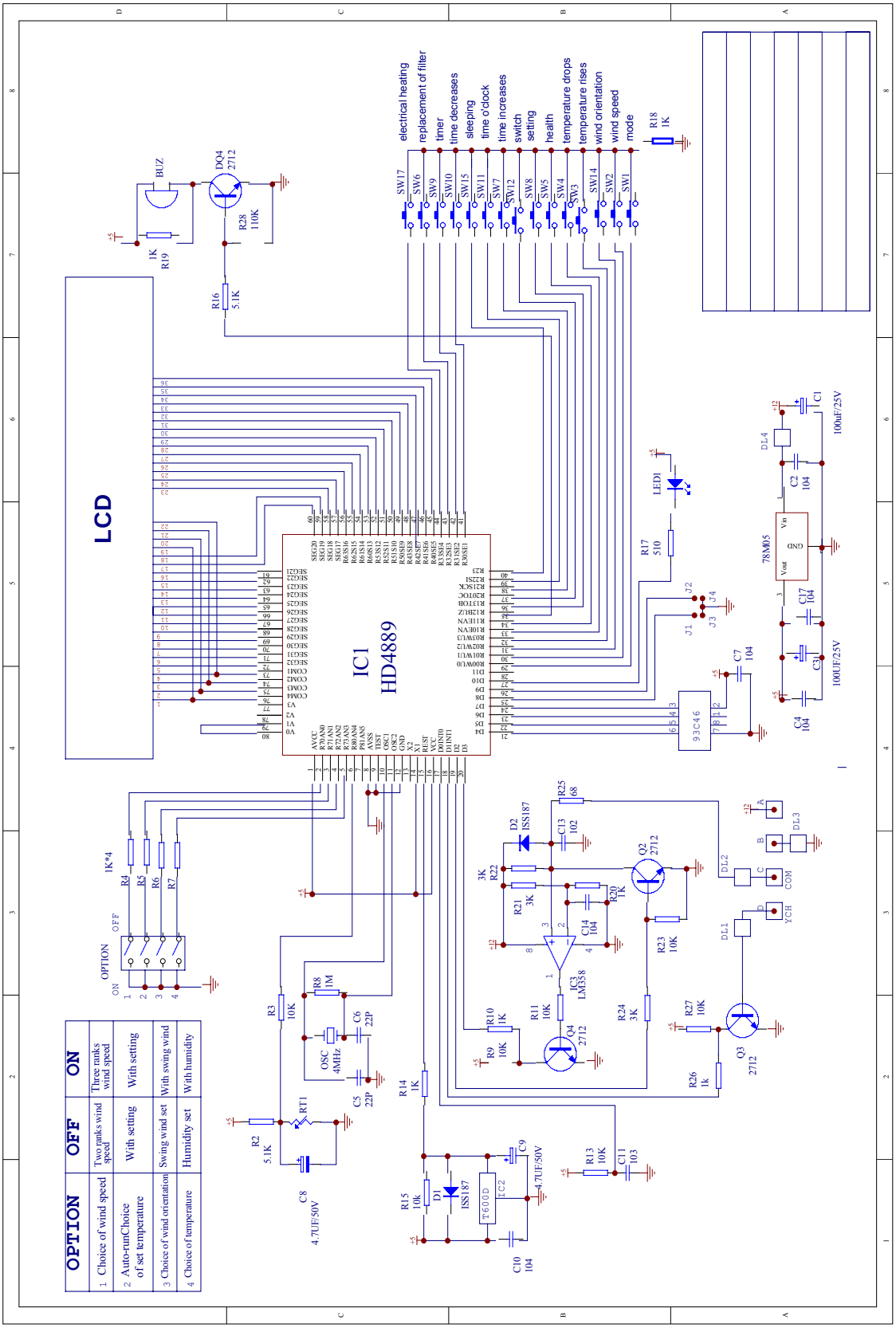
(1) Indoor electrical diagram



(2) Outdoor electrical diagram



(3) Wire remote controller electrical diagram



9.Abnormity diagnosis

Once abnormity appears, you could perform fault analysis on the basis of the following chart and try to solve problems (For only cold-producing machine, faults with the mark of * do not exit).

Fault code	Reasons	Solution	Remarks
E1	1.Indoor temperature circuit sensor destroyed or get short 2. L1 on indoor computer board destroyed	Change indoor temperature circuit sensor or indoor computer board	
E2	1.Indoor vent pipe temperature sensor destroyed or short circuit 2.L1 on indoor computer board destroyed	Change indoor vent pipe temperature sensor or indoor computer board	
E3	1.Outdoor temperature circuit sensor destroyed or get short 2. L1 on outdoor computer board destroyed		*
E4	1.Outdoor vent pipe temperature sensor destroyed or short circuit 2.L1 on outdoor computer board destroyed	Change outdoor vent pipe temperature sensor or outdoor computer board	*
E5	1.Air compressor current exceeds protection limit 2.Current sensor mutual sensor on outer computer destroyed	1.Power on again after being cut off 2.Change outdoor computer board	*
E6	1.Pressure switch of outer unit breaks 2.Insert piece of pressure switch not properly inserted	Power on again after being cut off	*
E8	Communication failure between panel and indoor unit	Check communication circuit	
E9	Failure in communication between indoor unit and outdoor unit	Check communication circuit	*

Symptom	Result of examination	Possible reason	Measures
The trouble of the indoor and outdoor board communication	Obstruction in signal S between indoor and outdoor unit	Linking assemblies are not ready	Insert the linking assemblies
	Abnormal power supply of outdoor board	Power line is not linked well	Plug in the power line
		Fuse of outdoor board is damaged	Change a new fuse
		Transformer is not linked well	Plug in the transformer
		Power supply circuit of outdoor board is in trouble	Return it to the manufacturer for service
	Communication indicator of indoor board does not flash	Communication circuit is in trouble	Return it to the manufacturer for service
4-way valve has no output when in heat operation	Leg 13 of 2003 on outdoor board has no output	2003 is damaged	Change a new 2003
	Relay JK3 on outdoor board has no output	Relay JK3 on outdoor board is damaged	Change a new relay JK3
	Relay JK3 on outdoor board has output	Socket CN6 on outdoor board and connection wire are not limked well	Link the connection wire well
Compressor does not wlrk in cool mode under the normal temperature condition		Safety unit is protecting the machine for 3 minute.	After 3 minute the machine automatically start
		Temp. of indoor coil pipe is too low, freeze-proof protection	After the temp.of the indoor coil pipe increasing to 8℃ the machine automatically start
	Leg 14 of 2003 on outdoor board has no output	2003 is damaged	Change a new 2003
	Relay JK2 on outdoor board has no output	Relay JK2 on outdoor board is damaged	Change a new relay JK2
	Relay JK2 on outdoor board has output	Socket CN7 on outdoor board and connection wire are not linked well	Link the connection wire well
Alarm displayed while pipe pressure is normal		Socket CN2 on outdoor board and connection wire are not linked well	Link the connection wire well
	Two pins of CN2 on outdoor board are both low voltage	Pressure testing circuit is in trouble	Return it to the manufacturer for service

Symptom	Result of examination	Possible reason	Measures
Compressor does not work in heat mode under the normal temperature condition.		Safety unit is protecting the machine for 3 minute.	After 3 minute the machine automatically start
		Temp. of indoor coil pipe is too high,overheat protection	After the temp. of the indoor coil pipe decreasing to 48℃ the machine automatically start.
	Leg 14 of 2003 on outdoor board has no output	2003 is damaged	Change a new 2003
	Relay JK2 on outdoor board has no output	Relay JK2 on outdoor board is damaged	Change a new relay JK2
	Relay JK2 on outdoor board has output	Socket CN7 on outdoor board and connection wire are not linked well	Link the connection wire well.
In cool mode, compressor works while outdoor fan does not work.		Temp. of indoor coil pipe is too low, freeze-proof protection	After the temp. of the indoor coil pipe increasing to 8℃ the machine automatically start.
	Leg 15 or 16 of 2003 on outdoor board has no output	2003 is damaged	Change a new 2003
	Relay JK1 or JK5 on outdoor board has no output	Relay JK1 or JK5 on outdoor board is damaged	Change new relays
	Relay on outdoor board has output	Socket CN9 on outdoor board and connection wire are not linked well	Link the connection wire well.
In heat mode, compressor works while outdoo rfan does not work.		Temp. of indoor coil pipe is too high,overheat protection	After the temp. of the indoor coil pipe decreasing to 48℃ the machine automatically start.
	Leg 15 or 16 of 2003 on outdoor board has no output	2003 is damaged	Change a new 2003
	Relay JK1 or JK5 on outdoor board has no output	Relay JK1 or JK5 on outdoor board is damaged	Change new relays
	Relay on outdoor board has output	Socket CN8 on outdor board and connection wire are not linked well	Link the connection wire well.

Symptom	Result of examination	Possible reason	Measures
Drainage pump does not discharge water when water is full.	No signal of float rising	Float itself is damaged	Change a new float
		CN11 on indoor board is not linked well	Link CN11 well
		Main chip of indoor board is damaged	Change a new indoor board
	Leg 12 of 2803 has no output	2803 is damaged	Change a new 2803
	CN5 on indoor board has no output	Relay JK6 is damaged	Change a new relay JK6
Alarm when water level is normal		CN11 on indoor board is not linked well	Link CN11 well
		Link wire of float feedback signal is obstructed	Change a new link wire
Indoor fan does not work	2803 on indoor board has no output	2803 is damaged	Change a new 2803
	Outputs of relay JK1,JK2 and JK3 are normal	CN8 on indoor board is not linked well	Link CN8 well
Indoor fan has no low speed	2803 on indoor board has no output	2803 is damaged	Change a new 2803
	Terminal COM of relay JK2 on indoor board has no voltage	Relay JK2 is damaged.	Change a new relay JK2
	Relay JK1 on indoor board has no output	Relay JK1 is damaged.	Change a new relay JK1
Indoor fan has no mid speed	Leg 17 of 2803 on indoor board has no output	2803 is damaged	Change a new 2803
	Terminal COM of relay JK1 on indoor board has no voltage	Relay JK1 is damaged.	Change a new relay JK1
	Relay JK2 on indoor board has no output	Relay JK2 is damaged.	Change a new relay JK2
Indoor fan has no high speed	Leg 16 of 2803 on indoor board has no output	2803 is damaged	Change a new 2803
	Relay JK1 on indoor board has no output	Relay JK1 is damaged	Change a new relay JK1

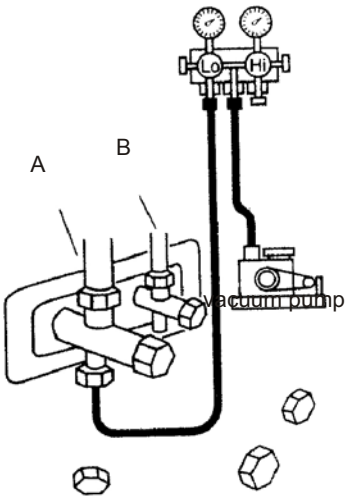
Symptom	Result of examination	Possible reason	Measures
No response when switch on	Power supply input of circuit board has no voltage	Power line is not linked well	Link power line well
	No voltage after passing fuse	Parts of filter circuit are damaged	Change a new computer board
		Fuse is damaged	Change a new fuse
	The second side of transformer has no output	Transtormer is not linked well or it is damaged	Link the transformer well or change a new one
	Output of 7805 is abnormal	Power supply part of indoor board is damaged	Change a new computer board
Front controlling board has no response when switch on	Power supply input of front controlling board has no voltage	Connection parts between front controlling board and indoor board is not linked well	Link the connection parts well
		Filter capacitor C2,C3 on power supply of display board is damaged	Change a new capacitor
	+5V output is abnormal	7805 and its input output filter capacitor are damaged	Change a new computer board
		Short-circuit of other circuits	
	Reset voltage is low	Reset chip T600D is damaged	Change a new rest chip T600D
Buzzer is not sounded when pressing button	Has no square wave signal in both ends of buzzer	Main chip is damaged	Change a new computer board
	Has square wave signal in both ends of buzzer	Buzzer is damaged	Change a new buzzer
One or two button is blocked		Display panel is improperly installed	Properly loosen installation bolts of four circuit boards
Front board and main board communication malfunction displays E7		Joints of connection line are not linked well	Link the joints well
	Front board and main board communication line is obstructed.	Connection line is malfunction	Change new connection line
		Socket CN2 on indoor board is not linked well	Link CN2 well
		Four triode in the communication circuit may be damaged	Change a new computer board

10. System flow chart

(1) Usage of the cooling medium

It adopts R22 and R407C as cooling medium. R22 and R407C are safe cooling medium which do no harm for human and are non-combustible. But if the conditioner is installed in enclosed room, be sure to prevent the cooling medium from leaking over the critical density. The critical density of R22 is 0.3kg/m $_3$.

Compound manometer



(2) Vacuum pumping of the system

Discharge the air inside the outdoor unit and cooling medium pipeline by vacuum pumping. Details as per the figure:

1) Fasten all of the jointer nut of the pipeline of the indoor and outdoor units to make sure they are not leaking.
2) Under the condition that the maintenance valve (two sides of liquid and gas) of the outdoor unit is completely closed, pump vacuum through the injection entrance of the maintenance valve.
3) After vacuum pumping ,loosen the nut used in valve lever, then fasten the nut (used in valve lever and injection entrance) under the condition that the maintenance valve (both two sides of liquid and gas) is completely open.

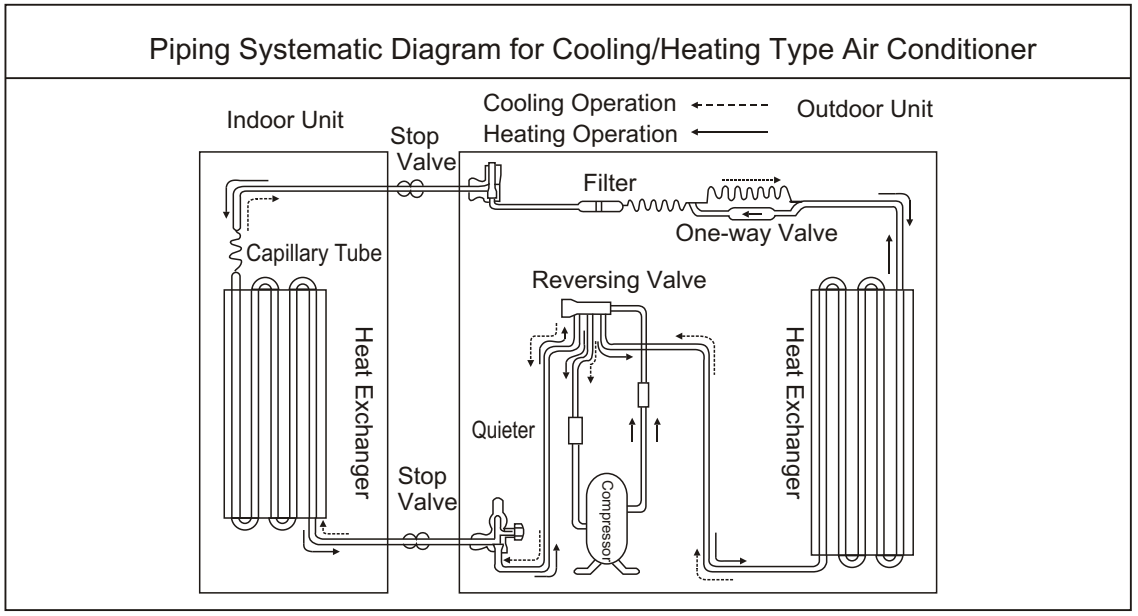
HDU-42H(C)03/M HDU-42HA03/M(R1) HDU-36HA03/M(R1):

A: three-way valve
steam pipeline ∅19.05mm
B: two-way valve
liquor pipeline ∅9.52mm

HDU-28H(C)03/M HDU-28HA03/M(R1):

A: three-way valve
steam pipeline ∅15.88mm
B: three-way valve
liquor pipeline ∅9.52mm

(3) Pipeline system chart



(4)Type and major features of the compressor:

HDU-42H(C)03/M : The compressor adopts piston type product, with strong power and smooth operation But it is incomparable with the swirl-type compressor on noise and efficienvy.

HDU-28H(C)03/M: The compressor adopts swirl-type product to avoid leakage owing to abrasion.The cooling output is constant.It has very strong adaptability under critical work condition. It has low work noise, high-efficiency and energy-saving feature. It reduces the moving parts to control the probability of breakdown.

11.Installation and maintenance

(1) Installation tools

1 Cross screwdriver 2 Metal saw 3 70mm drill 4 Spanner(17,27mm diameter) 5 Spanner(14,17,19,27mm diameter) 6 Pipe cutter 7 Pipe expander 8 Knife 9 Pliers 10 Leak detector or soap liquor 11 Measuring tape 12 Scraper 13 Refrigeration oil 14 Vacuum pump 15 Flat screwdriver

(2) Standard accessories

Remarks	①	②	③	④	⑤	⑥
Shape, name	Wire remote controller 	Small clip 	Big clip 	Heat insulator 	Non-cohesive tape 	Screw 5X25 
Quantity	1	6	2	2	1	4

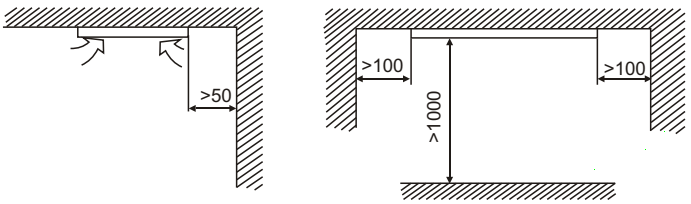
Remarks	⑦	⑧	⑨	⑩	⑪	⑫
Shape, name	Steel nail 	Sealing pad 	Rubber gasket 	Washer 	Cooling oil 	Plastic clamp 
Quantity	12	4	4	8	1	6

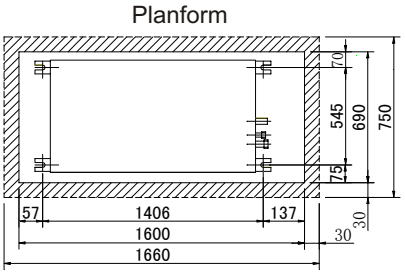
(3)Installation sketch of indoor/outdoor unit

a. HDU-42HA03 Installation sketch of indoor unit

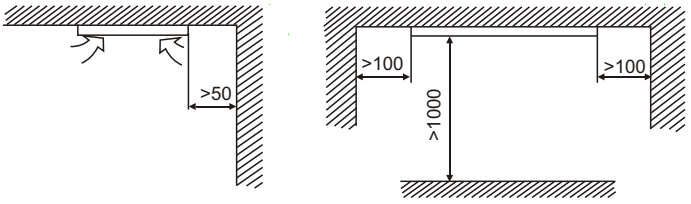
fgthrtyhejy

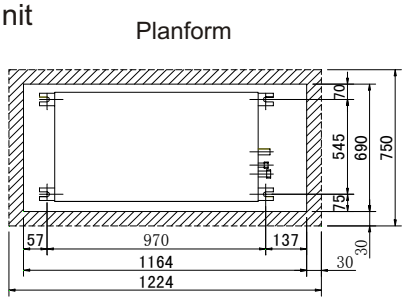
a. HDU-42HA03 HDU-42HA03/M(R1) HDU-36HA03/M(R1) Installation sketch of indoor unit



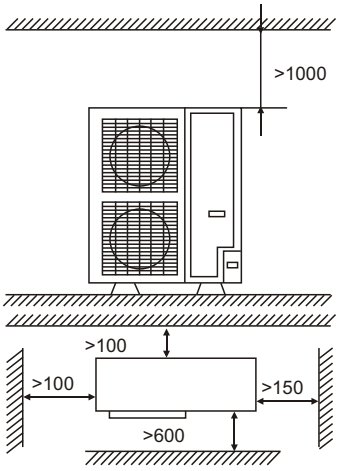


b.HDU-28HA03 HDU-28HA03/M(R1) Installation sketch of indoor unit

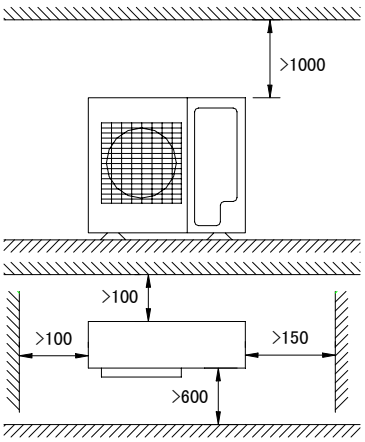




c. HDU-42HA03 HDU-42HA03/M(R1) HDU-36HA03/M(R1) Installation sketch of outdoor unit



d. **HDU-28HA03 HDU-28HA03/M(R1) Installation sketch of outdoor unit**



4) Installation procedures and points of attention:

a. Preparation before installation:

(1) See to Figure 4 for the position relationship between the ceiling opening and the unit and the suspension screw bolt.

(2) If there's existing ceiling, make the opening for installation on the ceiling. Attention: After installation, be sure to strengthen the ceiling frame to keep the ceiling even and avoid vibration.

b. Install the indoor unit

(1) Adjust the unit to proper installation position.

(2) Check if the unit is horizontal. Check the four corner of the unit in turn with plastic hose filled with water or horizontal detector.

(3) Remove the gasket locating plate used to prevent the gasket from dropping. Fasten the nut.

c. Cooling medium fitting pipe

(1) The size of the fitting pipe shall accord with the requirement of the model:

28000Btu/h unit:(liquid) ∅ 9.52 (gas) ∅ 15.88

42000Btu/h unit:(liquid) ∅ 9.52 (gas) ∅ 19.05

(2) Material requirement for the fitting pipe: TP_2M or T_2M()

(3) Thermal insulation layer outside the fitting pipe: adopt XPE materials

(4) In installation the conical nut shall be smeared with cooling oil both inside and outside.

(5) To add extra fitting pipe and make welding point at middle part, be sure to protect with nitrogen filling, and check if the connection pipe is leaking gas.

(6) Make thermal insulation and sealing at the jointer part. Otherwise it will influence the cooling effect and produce condensation.

(7) Keep the copper pipe dry and clean.

d. Install the drain pipe

(1) The diameter of the drain pipe shall be larger or equal to the diameter of the connection pipe (size of the connection pipe: 18mm; outside diameter: 26mm)

(2) The drain pipe shall be short. The drop slope shall be at lease 1/100 to avoid gas-bag. Reduce elbow as far as possible.

(3) To avoid bending of the drain pipe, keep 1-1.5m distance between hangers.

(4) Make thermal insulation and sealing for the indoor drain pipe. Otherwise it may produce water drops.

(5) The drain pipe shall adopt hard PVC pipe as materials.

e. Installation circuit

5. Check after installation:

a. If the indoor unit is installed reliably

b. If the gas leakage test is performed

c. If the thermal insulation of the unit is complete

d. If the drainage is smooth

e. If the voltage of the power supply is in accordance with the nameplate of the product

f. If the wiring and pipeline are installed properly

g. If the unit id earthed safely

h. If the wire model is in accordance with the stipulation

i. If there are obstacles at the air outlet and inlet of the indoor /outdoor unit

j. If the length of the cooling medium pipe and the filling amount of the cooling medium are recorded

12. Disassembly Instructions

Indoor units

Operation Procedure	Photos
Appearance of cassette type indoor unit.	
Remove the inlet grill	
Remove the protect panel	
Remove the drain pan	

Disassembly Instructions

Indoor units

Operation Procedure	Photos
Remove the evaporator	

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