KENDO

UNIVERSAL

COMMERCIAL AIR CONDITIONER

Multi-Split Inverter 1 to 2 System

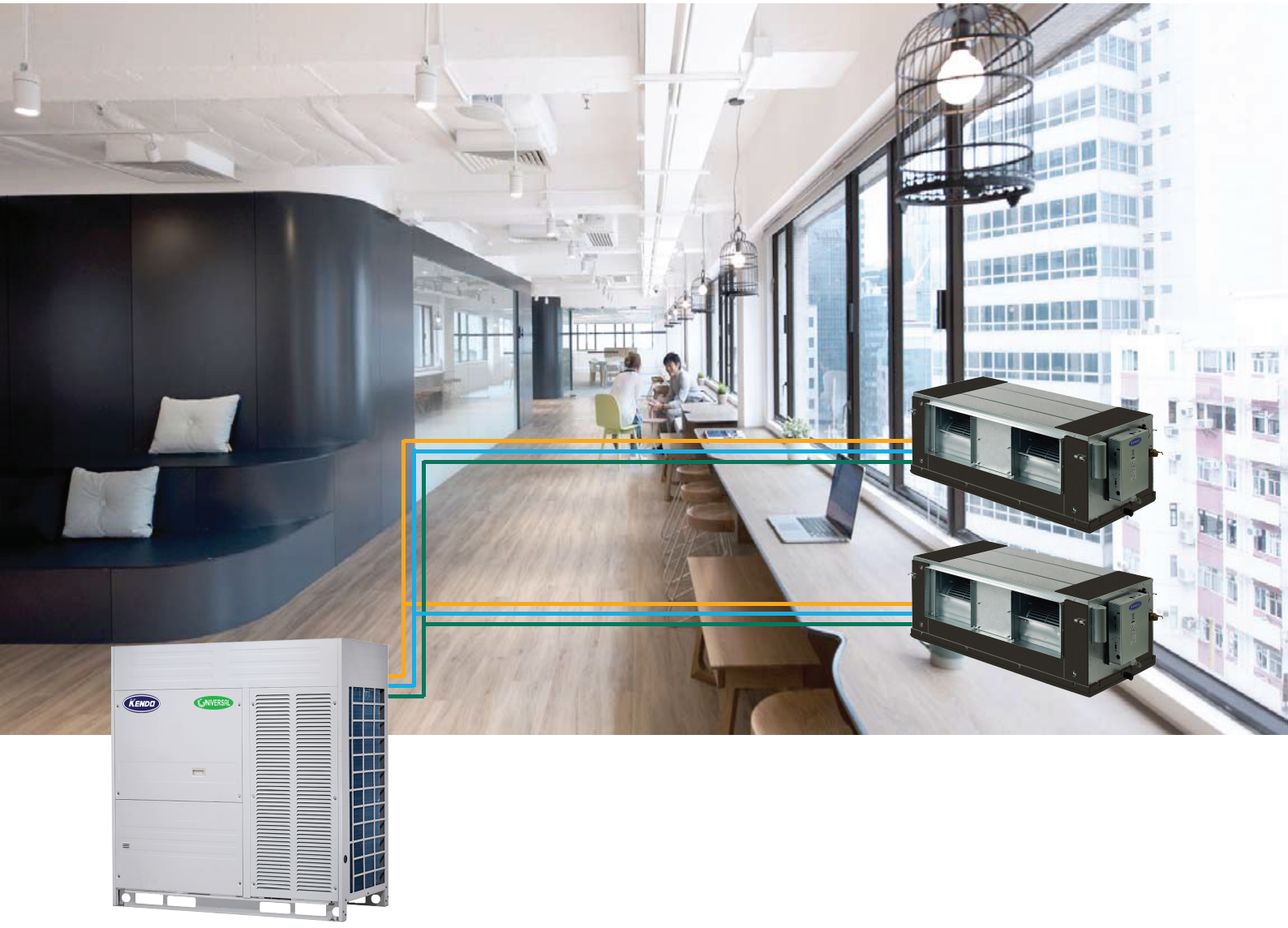
High ESP Ducted

R410a

Cooling

2023 MD Universal Series

General Features for Multi-Split Inverter Outdoor Unit



Wide cooling capacity range

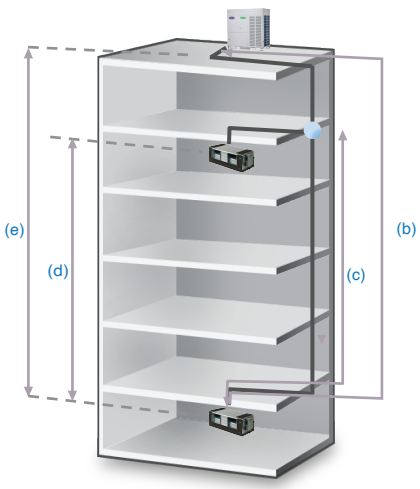
❖ The multi-split inverter unit capacity range is from 210,000Btu/hr to 300,000Btu/hr.

Long piping length

❖ With the DC inverter control technology and sub-cooling circuit technology, flexible for the installer to design the piping system.

a) Total piping length — 1000m
b) Actual piping length — 175m(200m)
c) piping length from 1st indoor branch to the 2nd indoor unit — 40m/90m*
d) Level difference between indoor units — 30m
e) Level difference between ODU and IDU units — 90m(ODU higher than IDU)
110m(ODU lower than IDU)

*The longest length after the first branch is 40m as standard and can extend to up to 90m under certain conditions.



Durable construction

❖ Pre-painted exterior cabinet panels passed 1000 hours Salt Spray Test for durability.

❖ Weather-resistant construction with capped steams and sloped top panels.

❖ G90 galvanized heavy gauge plate conforming to ASTM-A-653.

Anti-corrosion treatment as optional

❖ The large split air conditioners with special anti-corrosion treatment are suitable for seaside areas or the areas expose to acidic substances.

❖ Special anti-corrosion treatment of heat exchanger provides 5 to 6 times greater resistance against acid rain and salt corrosion.

❖ All PCB parts in the unit are coated with double-sided moisture proof paint. The outer side of electric box metal cover is spray-painted.

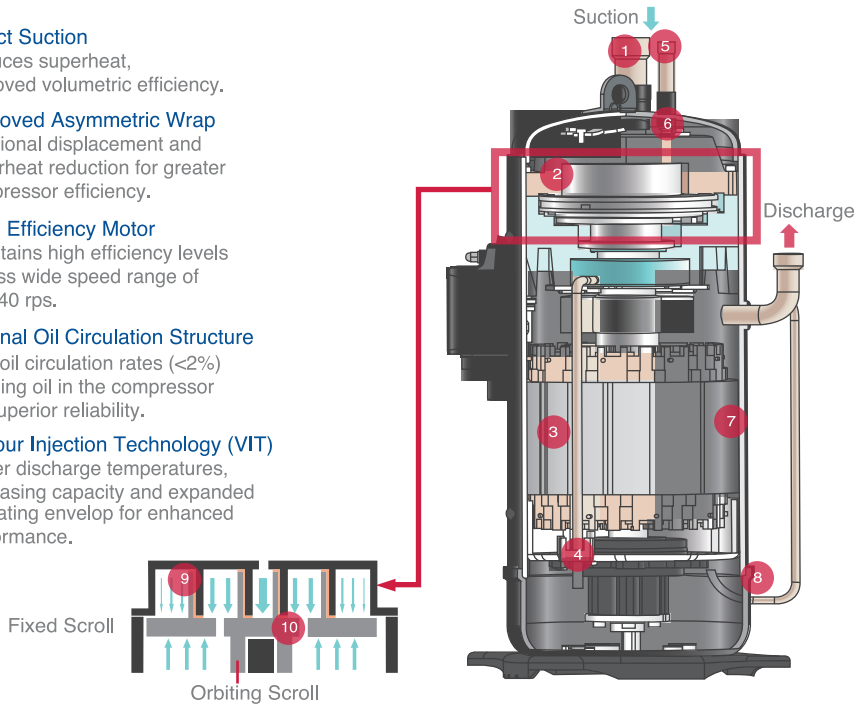
❖ All screws are anti-rust.

❖ Casings of the unit and motors are anti-rust.

Reliable scroll compressor

❖ High Efficiency Vapour Injection (VI Tech) DC Inverter Scroll Compressor

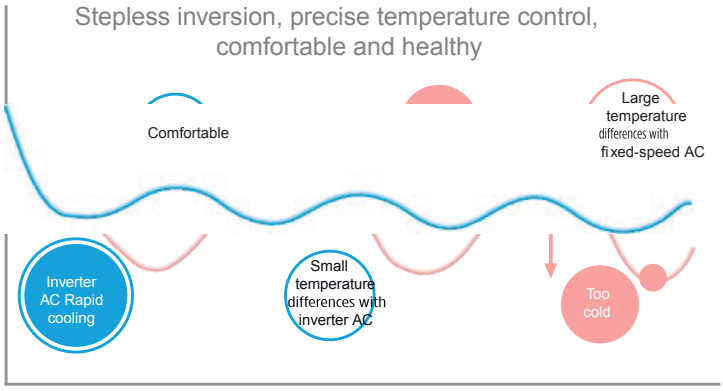
1. Direct Suction
   Reduces superheat, improved volumetric efficiency.
2. Improved Asymmetric Wrap
   Additional displacement and superheat reduction for greater compressor efficiency.
3. High Efficiency Motor
   Maintains high efficiency levels across wide speed range of 10-140 rps.
4. Internal Oil Circulation Structure
   Low oil circulation rates (<2%) keeping oil in the compressor for superior reliability.
5. Vapour Injection Technology (VIT)
   Lower discharge temperatures, increasing capacity and expanded operating envelop for enhanced performance.

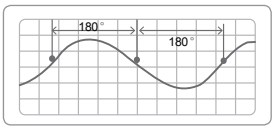


6. Bypass Valves
   Improved partial load efficiency with self-adapting variable pressure ratios for upgraded performance - low ambient heating and high ambient cooling.
7. High-Side Pressure Design
   Higher volumetric efficiency and improved oil management.
8. Dynamic Oil Balance Structure
   Patented technology for unsurpassed oil balance in parallel piped system operation.
9. Non-contact Oil Membrane
   Oil film seals involute section of scroll set, reducing compression leakage for improved performance and lower sound.
10. Intermediate Gas Pressure
    Axial force is continually adapting, blending discharge pressure and compressed suction pressure for optimized performance throughout the operating envelop.

DC inverter technology, precise temperature control

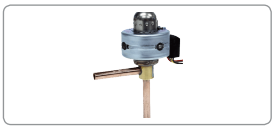
The DC inverter compressor system reaches full load rapidly providing less temperature fluctuation and improved living environment.





DC inverter technology
New generation 180° sine wave drive technology, higher energy efficiency.

Compressor seamless inverter main board
Wider inverter range control.



High-precision EXVs
Each EXV part achieves 480 pulse rate to precisely adjust refrigerant flow.

High-precision temperature sensor
It can react to temperature fluctuations with a precision of 0.5°C .

Multi-protection design

❖ Multi-measurement to ensure units operate normally and reliably:

System current protection, High/low pressure switch protection, Temperature sensor on/off protection, etc.

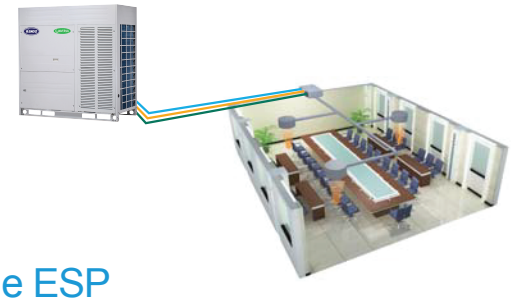
❖ Three-phase protector is optional.

HP/LP switch

Temperature sensor

Easy for installation

- Units are completely assembled, internally wired, charged outdoor unit with refrigerant at the factory.
- The site work only needs to connect refrigerant pipes and communication wires between outdoor unit and indoor unit.



Liquid pipe
Gas pipe
Connecting cable

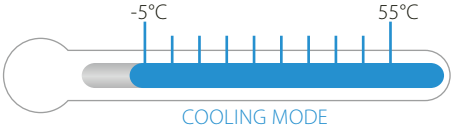
Adjustable ESP

❖ By using DC fan motor allowed external static pressure of outdoor fan adjustable. Combine with new design propeller fan allowed external static pressure up to 60Pa. .

❖ Can install the outdoor units in the service floor or facility room and discharge the hot air to the outside area with duct installed at the air outlet of the outdoor unit.

Wide Ambient Temperature Range

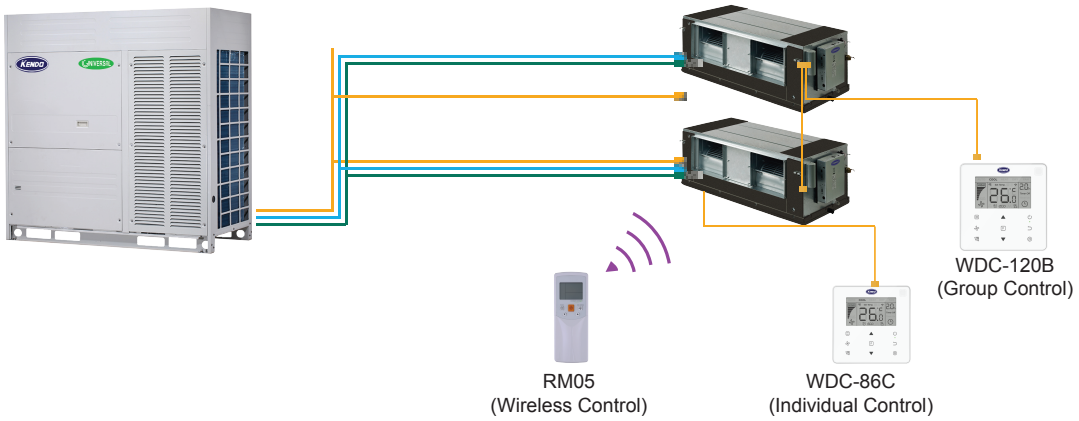
❖ The Multi-Split Inverter Series can operate stably in a wide ambient temperature range from -5°C to 55°C in cooling mode.



Controllers

❖ Wireless remote controller is available for conventional split A/C series.

❖ Wired controller can be directly connected to indoor units.



❖ Centralized control function can be achieved through the centralized controller as optional.

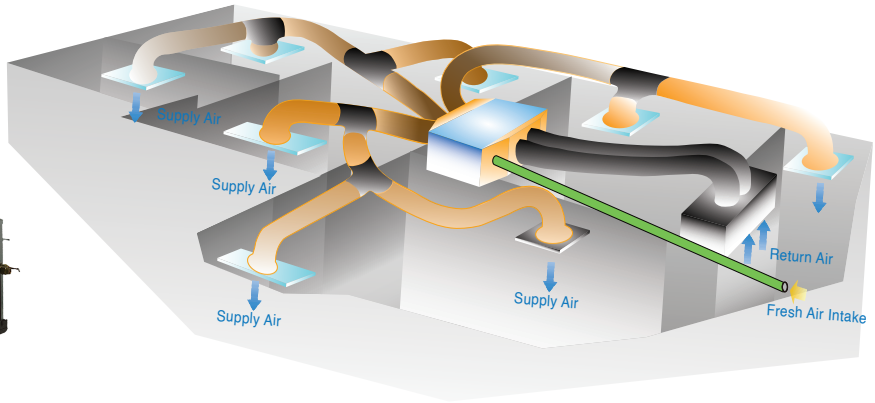
Multi-accessories

Description	Duct	
	Standard	Optional
Filter	√	
Outlet drainage	√	
EHK (Electric Heater Kits)		√
Three-phase protector		√
Wireless controller		√
Wired controller	√	
Centralized controller		√

General Features for High-ESP Ducted Indoor Unit

Flexible and Long Distance Ducting Application.

The High Static Pressure Duct indoor unit offers external static pressures up to 280Pa depend on the model, allowed long distance air supply duct application. Excellent coverage of height up to 6.5m and less then 800mm required ceiling space.
From minimum 50Pa up to 280Pa ESP designed allowed the unit applied to multiple port air supply, the air outlet set separately from the indoor unit so that cool air even distributed the irregular area structure of the room.



Easy Installation.

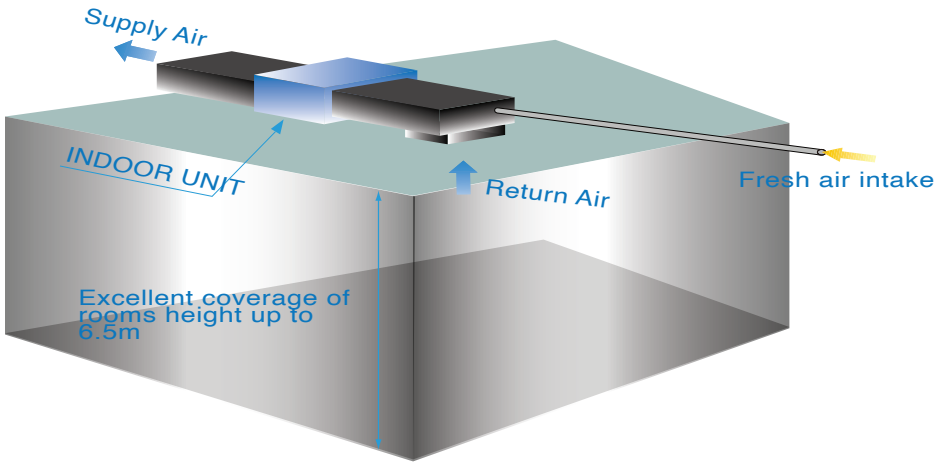
The Flange for air inlet and air outlet ducts is standard.

Special Insulation and Sub-Drain Pan.

Achieved high heat insulation efficiency and condensation free. Double insulated drain pan provides double protection for unit and ceilings as well. All unit designed with sub-drain pan for double water leakage protection.

Fresh Air Intake Application.

Fresh air makes the room more healthy, fresh and comfortable.



Fresh Air Intake
Built-in Drain Pump
Auto Restart Function
Sleep Mode
Hydrophilic Aluminum Fin
Intelligent Defrosting
Fast Cooling/ Heating
Low Ambient Cooling
Fire-proof Electric Box
Wireless Remote Control
Wired Control
Central Control
WIFI Control

standard optional

High ESP Ducted Multi-Split Inverter

Model Number * Qty				KDH-C2001MA/HA * 2	KDH-C2501MA/HA * 2	KDH-C3001MA/HA * 2
	Indoor Unit			KDO-C2001QAA	KDO-C2501QAA	KDO-C3001QAA
INDOOR UNIT (AC Motor)						
Power supply				1-phase,220-240V,50Hz	1-phase,220-240V,50Hz	1-phase,220-240V,50Hz
Cooling	Total Capacity (A+B)		Btu/h	210,000	255,000	300,000
			kW	61.55	74.74	87.92
Power input			W	1516	2700	2700
Airflow rate(H/M/L)			m^3/h	4700/4100/3599	7472/6072/4995	7472/6072/4995
External static pressure(Min/Std/Max)			Pa	50/200/280	50/200/280	50/200/280
Sound pressure level(H/M/L)			dB(A)	59/55/52	61/59/56	61/59/56
Net dimension(W×H×D)			mm	1440×505×925	1970×668×902.5	1970×668×902.5
Packing dimension(W×H×D)			mm	1509×550×990	2095×800×964	2095×800×964
Net/gross weight			kg	115/129	232/245	232/245
Piping connections	Liquid/gas pipe		mm	Φ9.53×2/Φ15.9×2	Φ9.53×2/Φ22.2×2	Φ9.53×2/Φ22.2×2
	Drain pipe		mm	OD Φ32	OD Φ32	OD Φ32
Standard controller				Wired controller	Wired controller	Wired controller
OUTDOOR UNIT (DC Inverter)						
Power supply				3-phase,380-415V,50(60)Hz	3-phase,380-415V,50(60)Hz	3-phase,380-415V,50(60)Hz
Cooling	Capacity		Btu/h	210,000	255,000	300,000
			kW	61.55	74.74	87.92
	Power input		kW	17.66	20.68	29.51
	EER			3.48	3.61	2.97
	Capacity Range			50-130%	50-130%	50-130%
Compressor	Type			DC inverter	DC inverter	DC inverter
	Quantity			2	2	2
Fan and Motor	Motor Type			DC	DC	DC
	Quantity			2	2	2
	Motor output		kW	0.56×2	0.56×2	0.56×2
	Max. ESP		Pa	20 standardt; 60 optional	20 standardt; 60 optional	20 standardt; 60 optional
	Airflow rate		m^3/h	12000	19600	20600
Refrigerant	Type			R410A	R410A	R410A
	Factory charge		kg	13	19	19
Pipe connections	Liquid pipe		mm	Φ19.1	Φ19.1	Φ22.2
	Gas pipe		mm	Φ31.8	Φ31.8	Φ38.1
Sound pressure level			dB(A)	63	64	64
Net dimensions (W×H×D)			mm	1250×1615×765	1585×1615×765	1585×1615×765
Packed dimensions (W×H×D)			mm	1305×1790×820	1650×1810×840	1650×1810×840
Net weight			kg	278	338	338
Gross weight			kg	297	362	362
Ambient temp.	Cooling		° C	-5 °C to 55 °C	-5 °C to 55 °C	-5 °C to 55 °C

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temperature: 27°CDB, 19°CWB,outdoor temperature: 35°CDB, equivalent ref. piping: 7.5m(horizontal).
2. Sound level is measured at 1.4m below the air outlet.
3. External static pressure is based on high speed indoor air flow.
4. Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

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