Axion

Technology Leads Intelligent Life

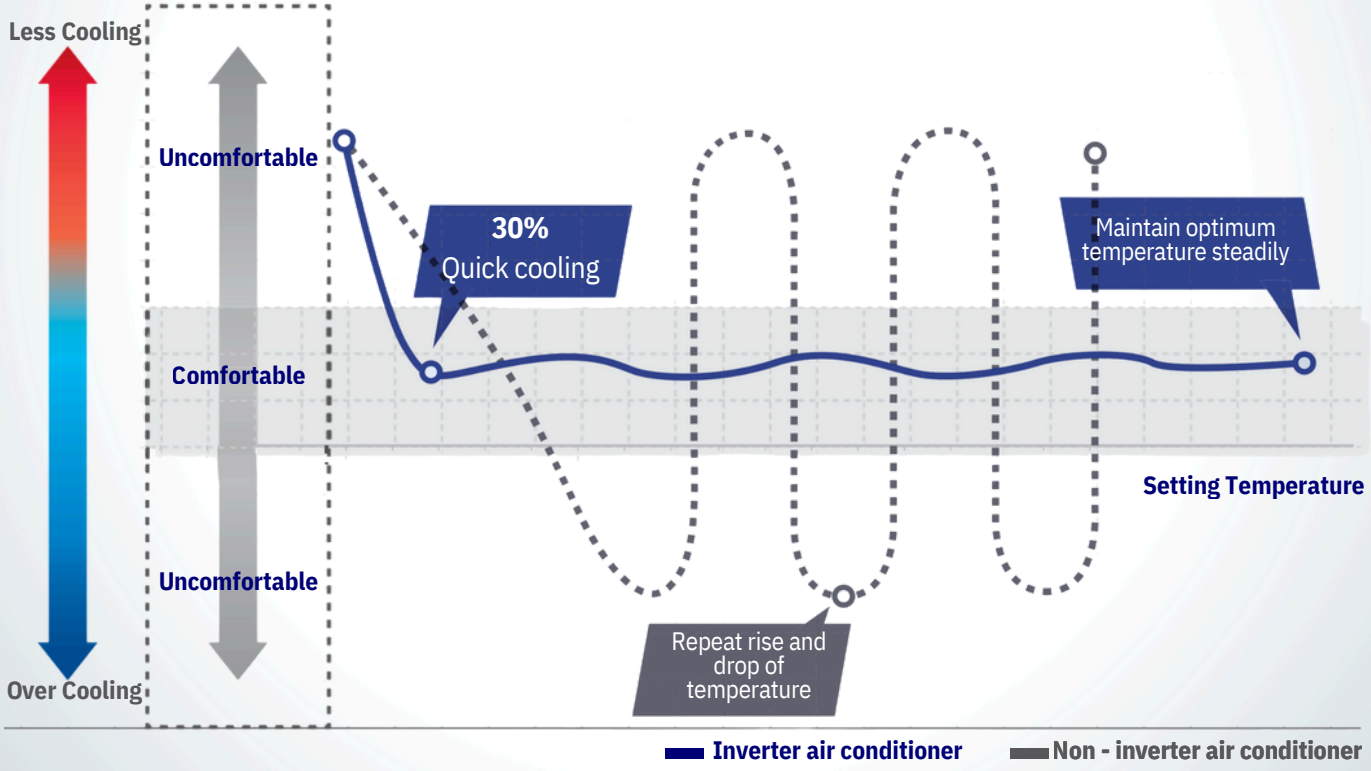
LIGHT COMMERCIAL
AIR CONDITIONER

axîon.com

WHAT IS **INVERTER?**

Traditional compressors normally stop running once the set temperature is reached, then start again when the room begins to warm up. This stop-start cycle leads to inefficient energy use and higher electricity bills. Axion's Smart Inverter Single Split air conditioners, however, operate far more efficiently by gradually adjusting output based on both indoor and outdoor temperatures. This allows for more precise climate control and significantly improved energy efficiency.

The Advantages of Inverter Control



Brain

Non-inverter compressors run at a fixed speed either ON or OFF ignoring room conditions. Axion's inverter technology adjusts speed as needed, ensuring efficient, real-time temperature control.

Constant Compressor — Inverter Compressor

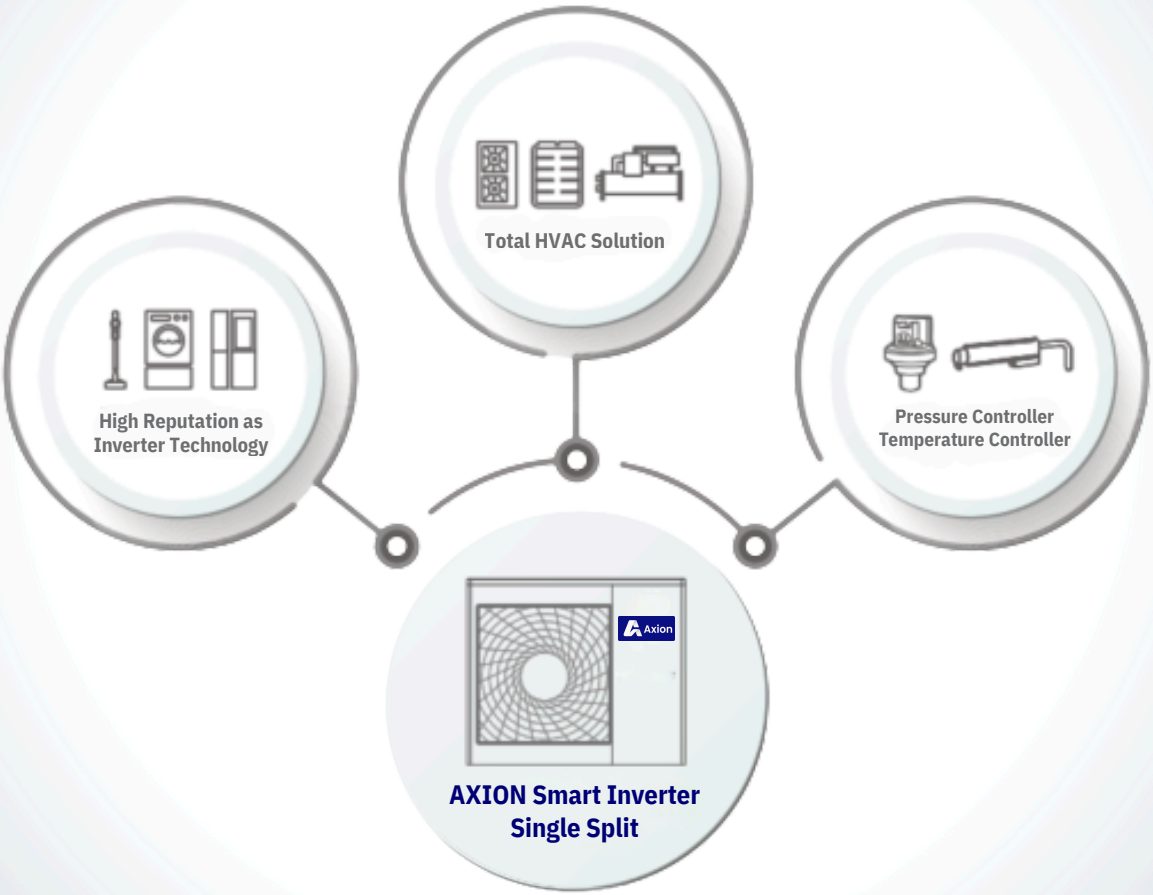
Dimmable lamp

Constant-speed compressors only switch ON or OFF, with no adjustment to conditions. Variable-speed technology, like dimmable lighting, adapts its output based on the environment—delivering better comfort and efficiency.

Constant Compressor — Inverter Compressor

WHY AXION SMART **INVERTER?**

Axion's inverter technology is gaining global attention for its reliability and performance. Known as a comprehensive HVAC provider, Axion continues to lead with innovation. Its latest Smart Inverter Single Split systems feature advanced inverter technology for efficient, high-quality climate control.



Energy Saving
More Efficient 40%

Comfort
30% Quick Cooling

Reliability
Wide Operation Range

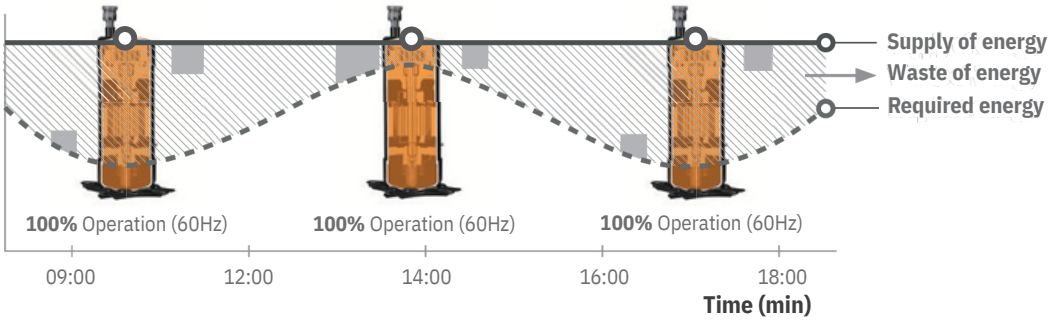
ENERGY SAVING

Axion's latest Smart Inverter Single Split systems are equipped with advanced inverter technology. Unlike traditional constant-speed compressors, Axion's Smart Inverter delivers a new level of intelligence and efficiency to every air solution it powers.

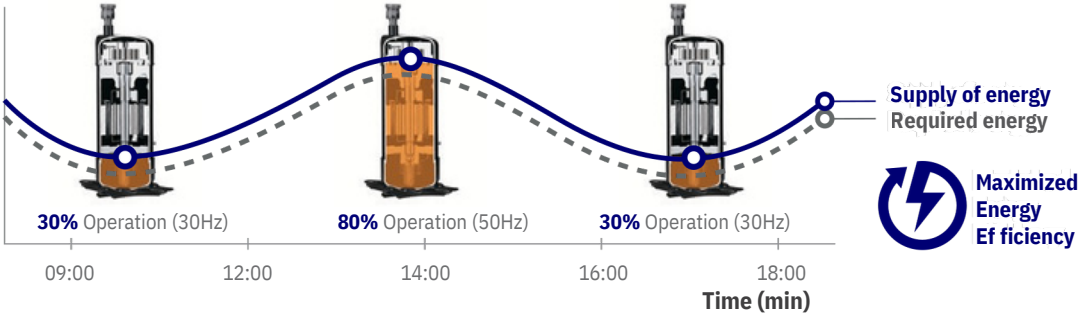
Constant-speed Compressor vs. Inverter Compressor

The compressor intelligently adjusts its output based on surrounding conditions, delivering multiple benefits such as exceptional energy efficiency, enhanced comfort, and long-term reliability.

CONSTANT SPEED COMPRESSOR



AXION SMART INVERTER COMPRESSOR



High Seasonal Energy Efficiency

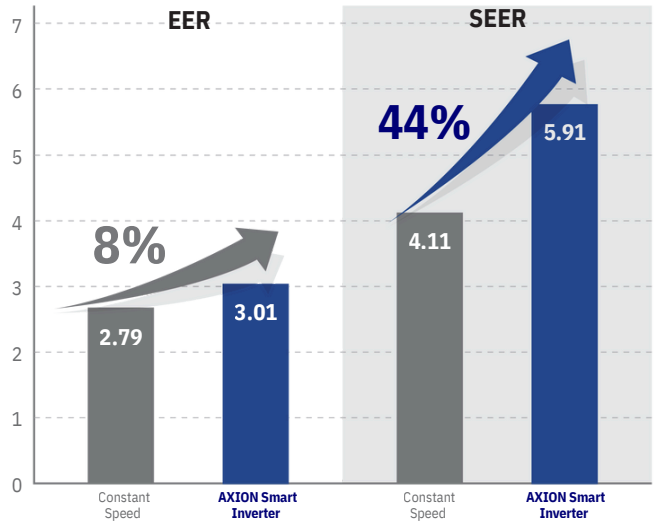
In terms of SEER performance, Axion Smart Inverter is more efficient. It operates at variable speeds in accordance with actual temperature that varies all year round, consuming less energy than constant-speed systems. See how the energy savings ratio increases when shifting from EER to SEER.

SEER vs. EER

Seasonal Energy Efficiency Ratio (SEER)
How efficiently a cooling system will operate
over an entire season!

Energy Efficiency Ratio (EER)
How efficiently a cooling system will operate when the outdoor temperature is ***at a specific level*** (35°C)

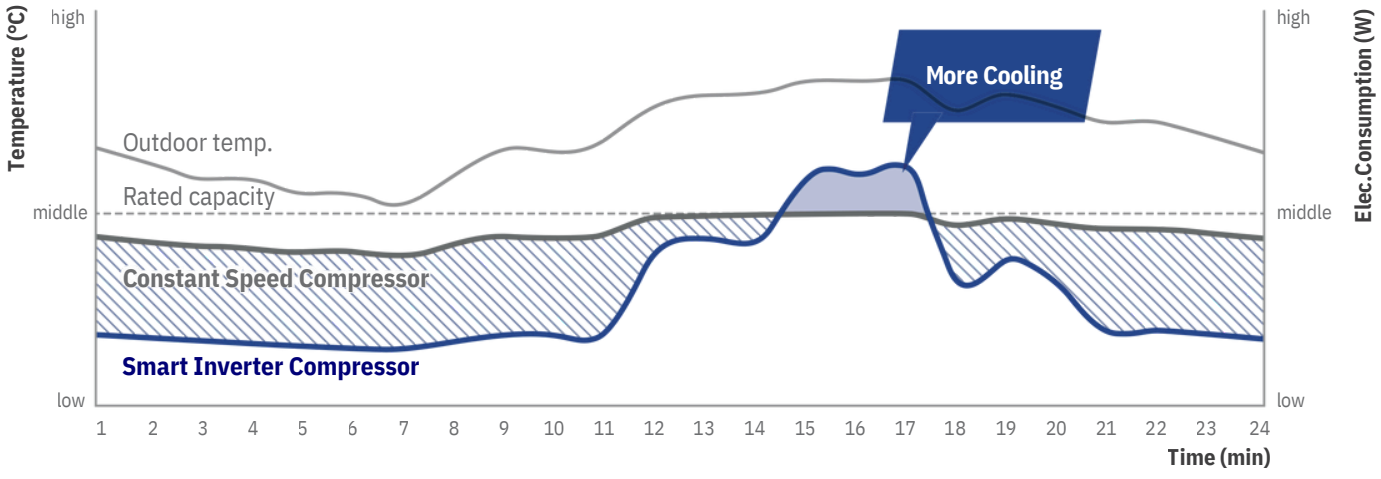
ENERGY EFFICIENCY

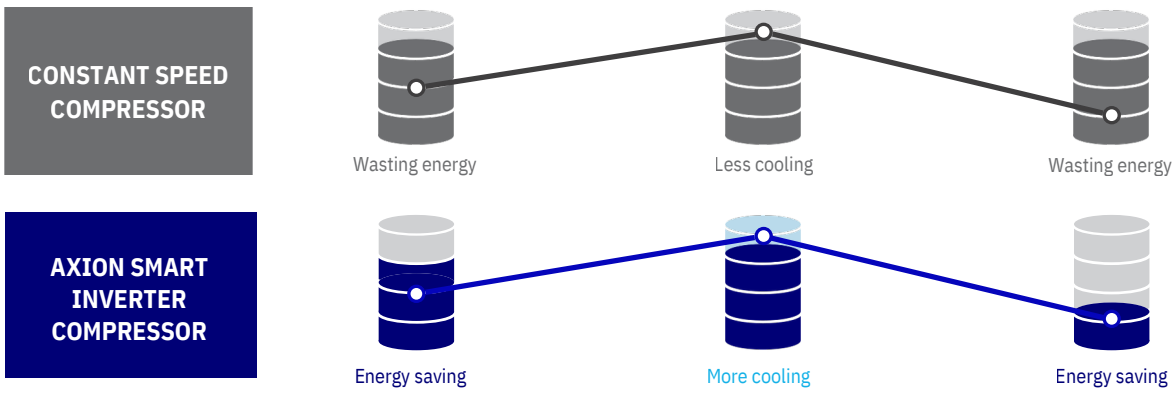


* Model specification : 4 Way Cassette (48 kBtu/h)
*SEERvalue is axion internal simulated data

Energy Saving Ratio compared to Constant Speed

External conditions can change every minute. So, Axion Smart compressor runs faster during the hottest times of the day and slows down as the temperature drops. This way, it finds the optimal operating conditions to maximize energy savings.





COMFORT

While constant-speed compressors often cause uneven temperature fluctuations due to their stop-start operation, Axion Smart Inverter compressor enhances comfort by adjusting output to keep the room steadily at the set temperature. Users also benefit from the quick-cooling capabilities.

Quick Cooling

Axion Smart Inverter senses not only temperature but also pressure, enabling precise and rapid cooling performance.

SMART SENSORS

Temperature Sensor

+

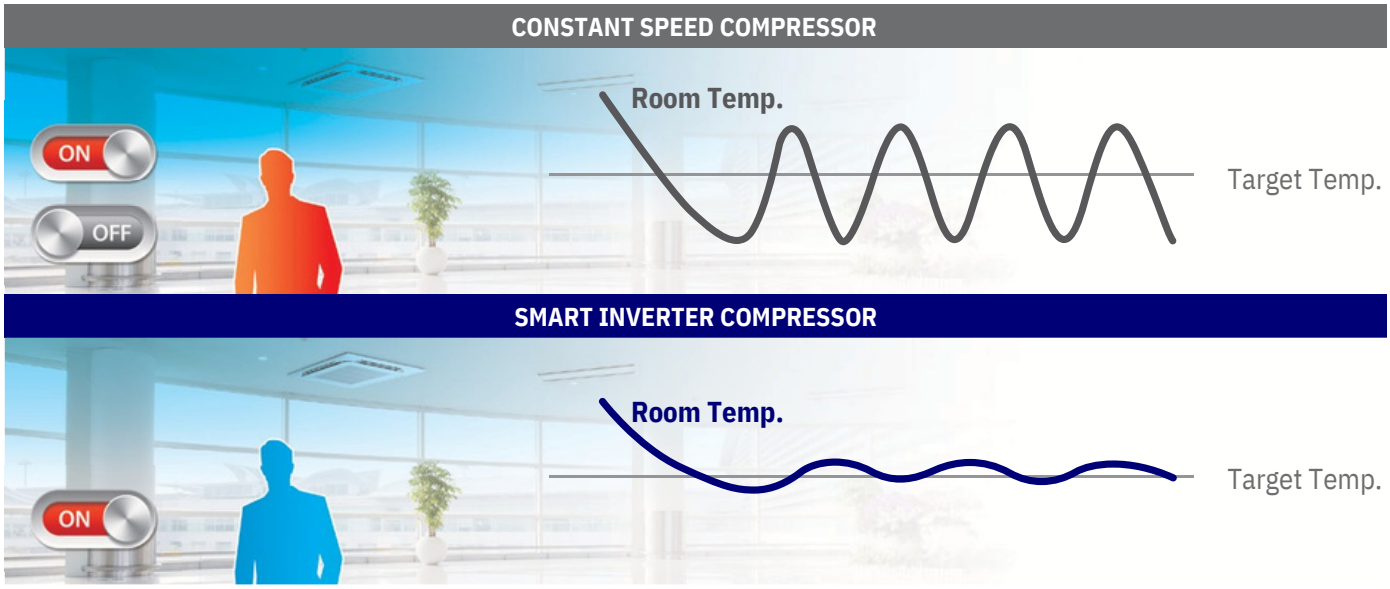
Pressure Sensor

Sensing and ready for operation

Quick and reliable operation

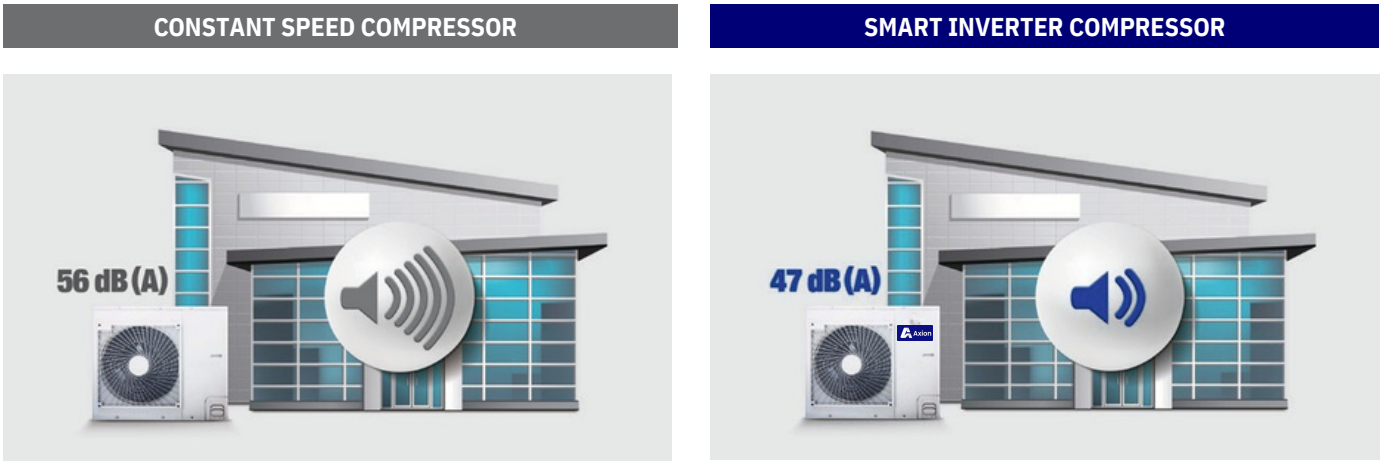
Comfort Cooling

Compared to constant-speed systems that cause irregular temperature shifts due to ON/OFF operation, the Axion Smart Inverter ensures optimal performance by adjusting to the set temperature maximizing user comfort.



Low Noise

Axion Smart Inverter produces less noise than constant-speed systems by adjusting the compressor frequency according to the load.



Maximum Capacity

When outdoor temperatures rise sharply, Axion Smart Inverter can boost the air conditioner's performance beyond its rated capacity to ensure effective cooling.

RELIABILITY

Ideal for regions with unstable electricity supply, Axion's Smart Inverter Single Split air conditioners operate at a higher degree of stability and reliability with a wide operation range.

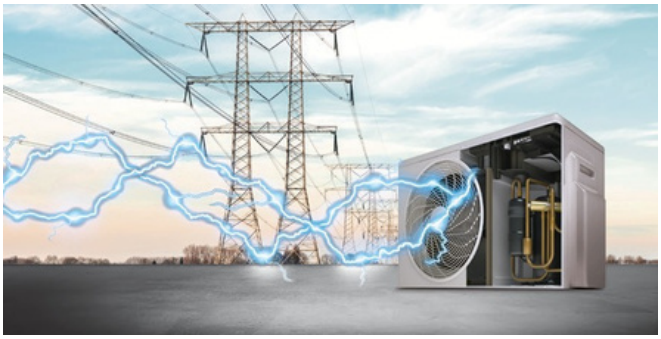
Wide Operation Range

Axion's advanced compressor technology ensures stable performance across a wide range of temperatures.

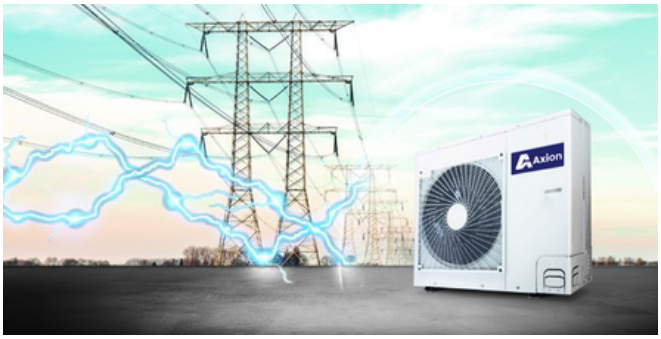
High and Low Voltage Protection

When abnormal voltage is detected, Axion Smart Inverter compressor automatically shuts down to protect the system and ensure reliability. In contrast, constant-speed compressors face a higher risk of damage under such conditions.

HIGH RISK OF COMPRESSOR FAILURE

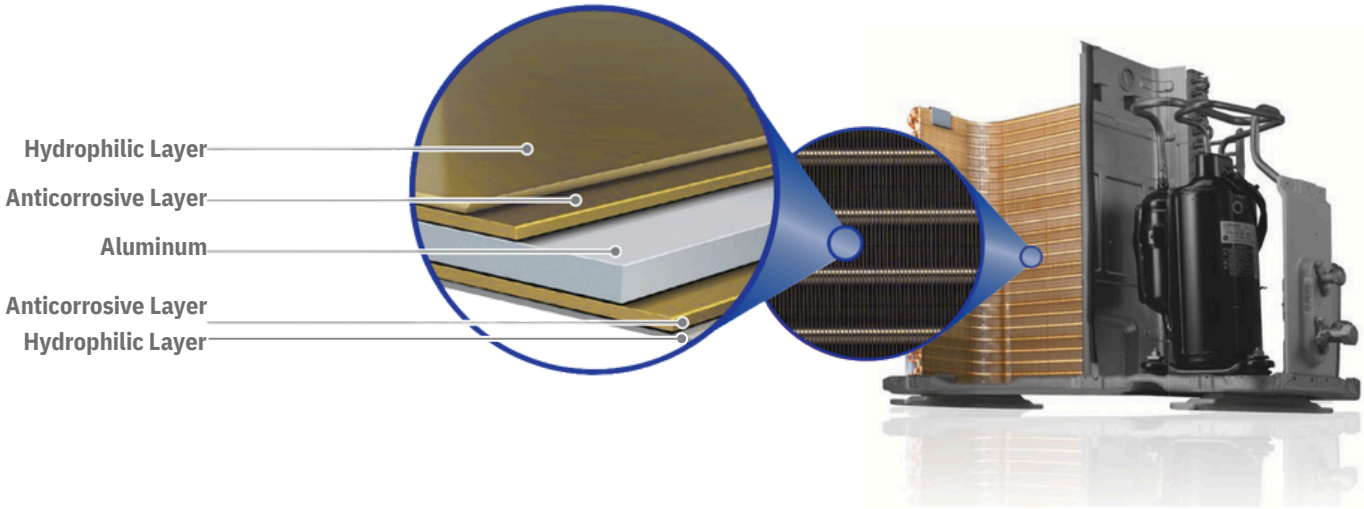


COMPRESSOR PROTECTION



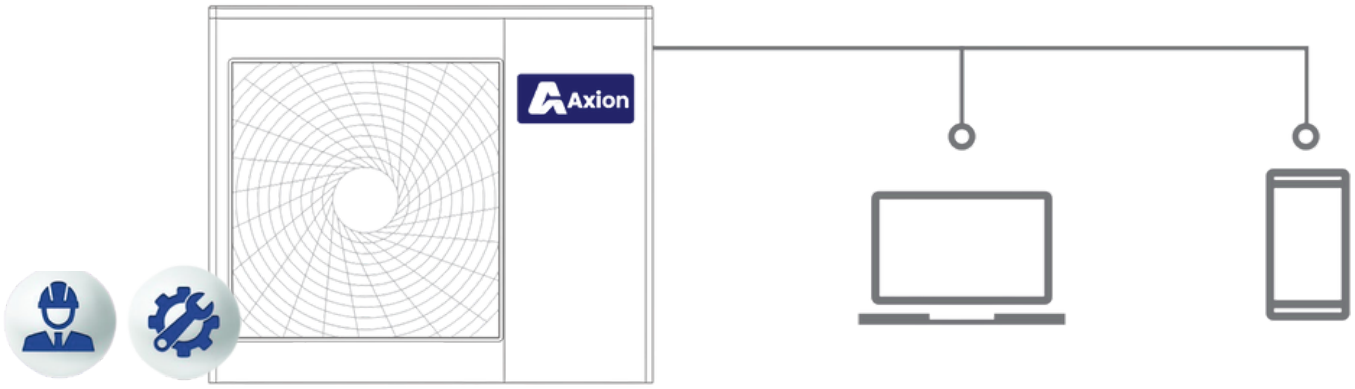
Corrosion Resistant Heat Exchanger

The gold-colored protective coating on the heat exchanger fins helps prevent corrosion, extending the life of the unit.



Easy Maintenance and Service

The gold-colored protective coating on the heat exchanger fins helps prevent corrosion, extending the life of the unit.



R410A Standard Efficiency Inverter Series

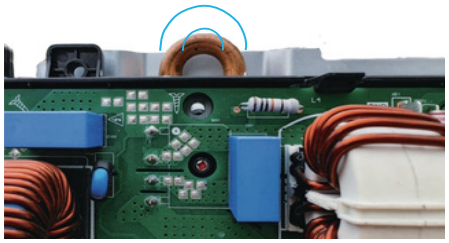
INVERTER COMPRESSOR : The compressor adopts the latest DC inverter technology, which greatly improves the working performance compared with ON/ OFF type

Coated Circuit Board

The circuit board is coated with protective coating to avoid the impact of humid air or dust on the PCB and prolong its service life.

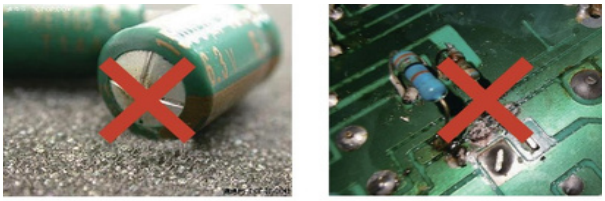
Refrigerant-cooling PCB

The latest refrigerant cooling technology is adopted to improve the heat dissipation effi ciency of the PCB, ensure the safe and stable operation of the PCB,and prolong the service life.



New Inverter Technology (patent)

The new patented inverter technology without Electrolytic capacitor solves the after-sales problems such as capaci- tor bulge and leakage in the traditional Electrolytic capaci- tor drive scheme



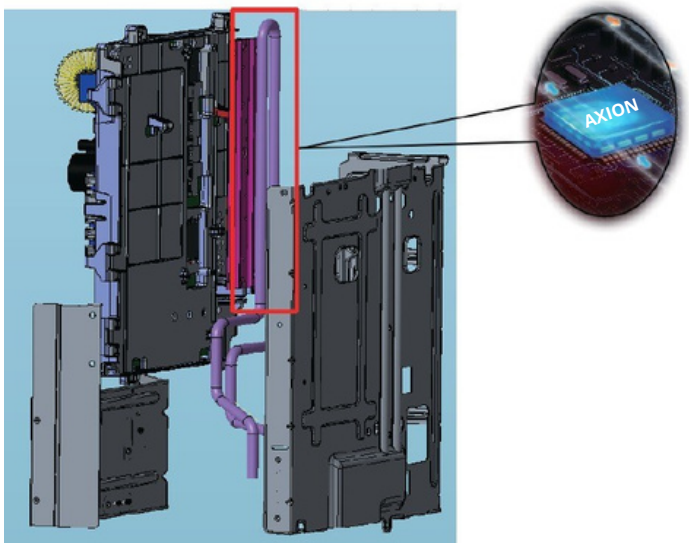
capacitor bulge and leakage

Three Speeds Fan Motor

Outdoor unit 3 fan speeds with better low temp. cooling.

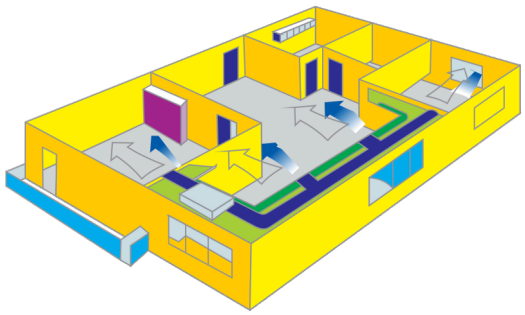
PCB Refrigerant cooling

Use refrigerant cooling technology to reduce the main controller temperature.



Long Distance Air Supply

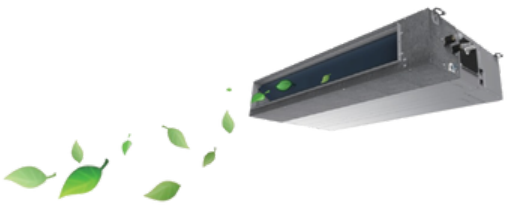
High ESP design makes the air supply the distance, and the air supplied is distributed well.



INDOOR UNIT

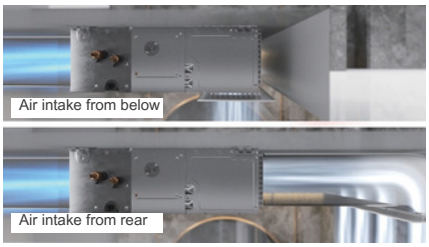
Fresh air inlet

Fresh air inlet design, fresh air can be introduced to ensure fresh air in the room.



Flexible Air Intake Options

Two types of air intake, from rear and bottom (optional), which can meet different decoration requirements.



Two Way Drainage Directions

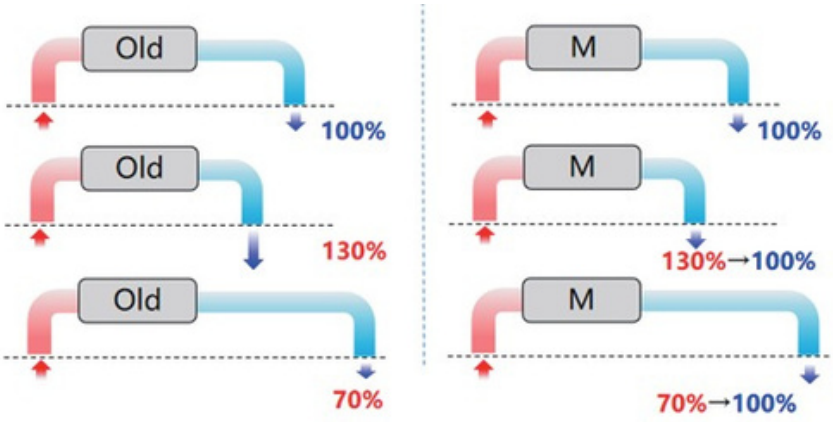
Two ways of drainage direction, from left and right, which can meet different installation situations.

Removable Control Box

Independent structure design, so it's convenient for us to maintain by screwing off two screws to remove it.

Constant Air Flow Volume (only certain model support)

Under different ESP, the product supply constant air flow volume for comfort.

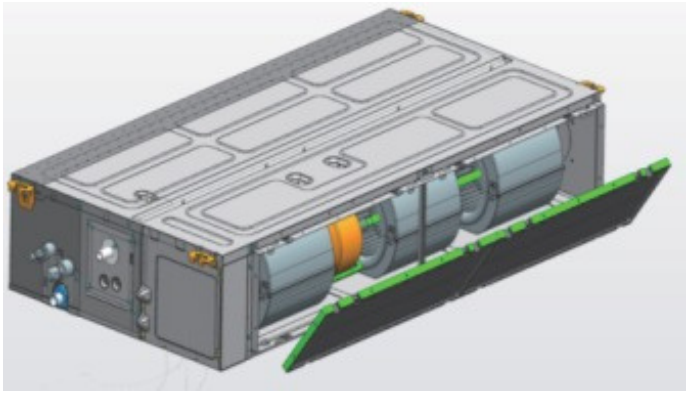


Dry contact function

Optional dry node function, when the unit senses the window opening or sensing the fire, the unit will automatically shut down.

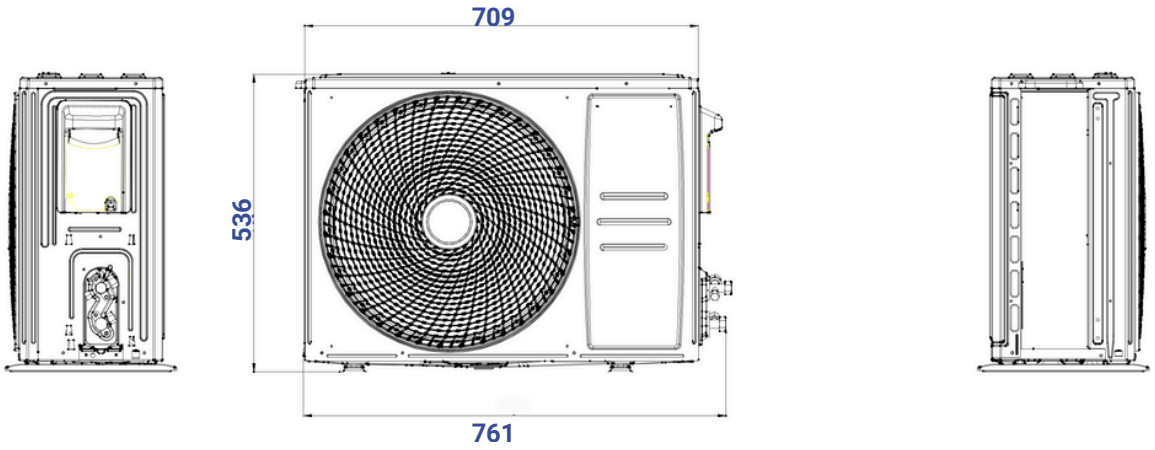
W Type High effeciency filter screen

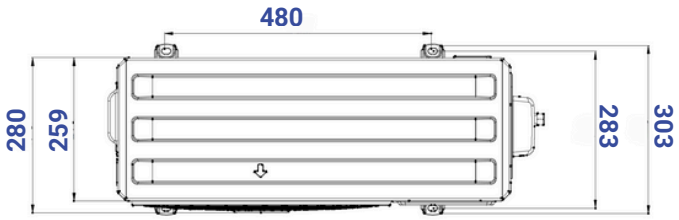
- Easy disassembly (0 Screws)
- Convenient to wash
- High eff eciency (W type)



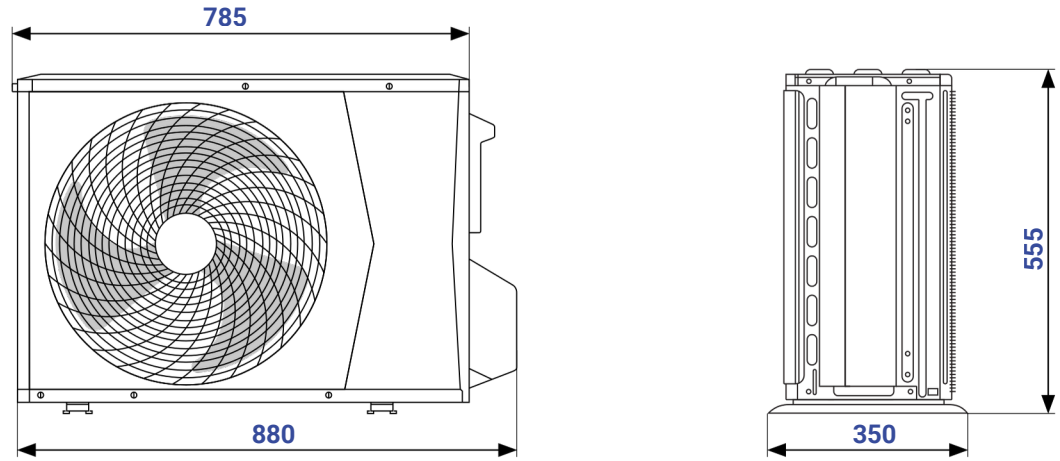
Outdoor unit

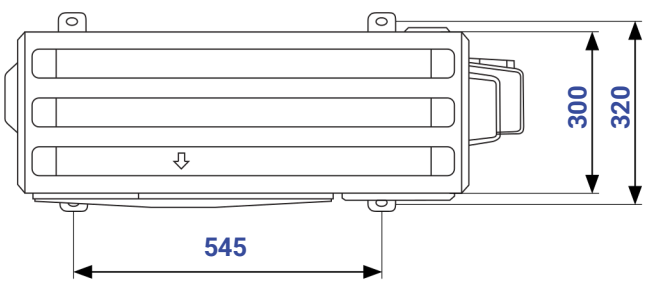
AL-H12/4DR1E





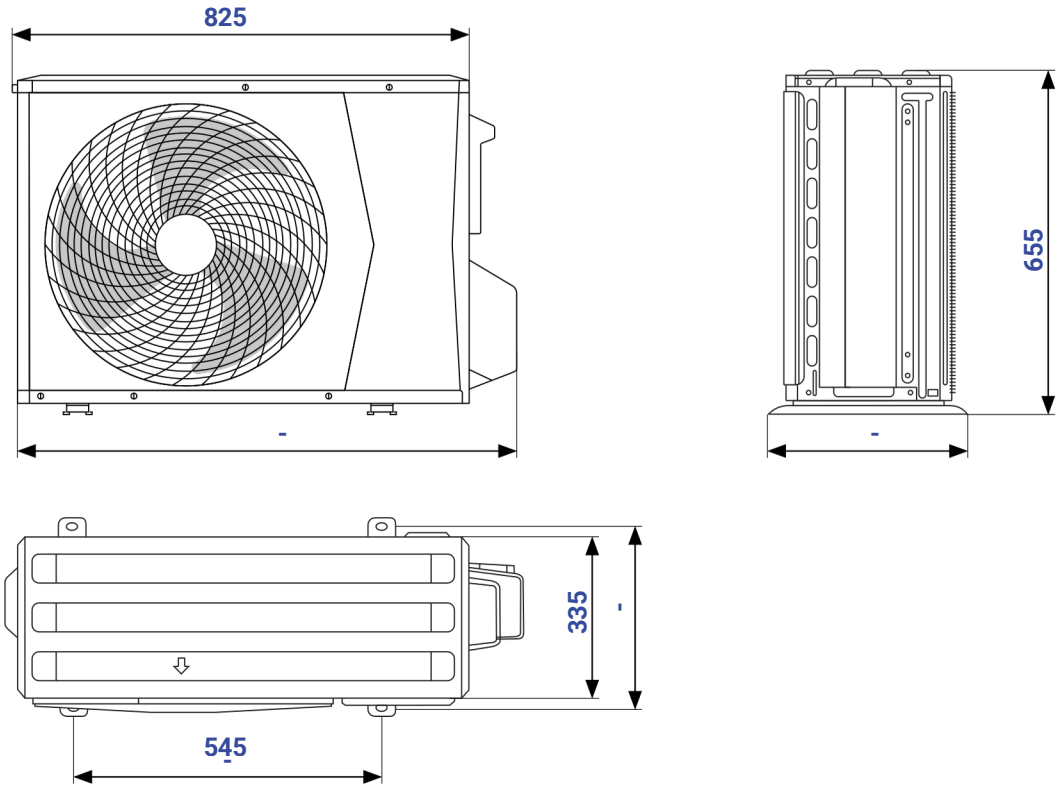
AL-H18/4DR1E



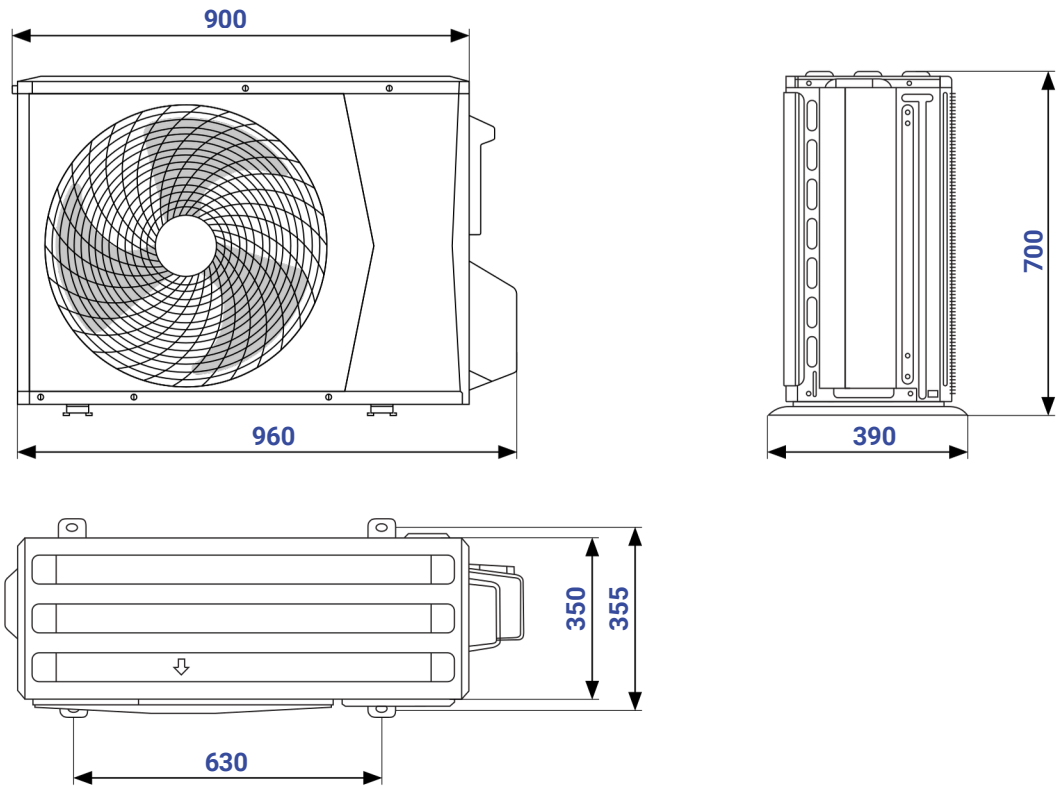


Outdoor unit

AL-H24/4DR1F

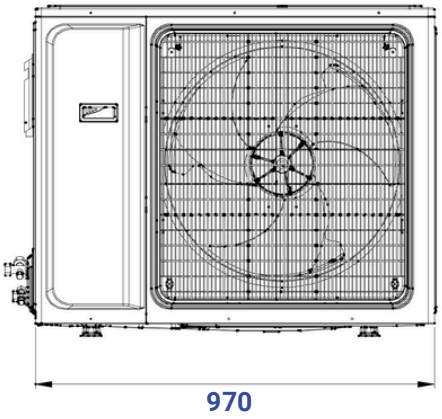


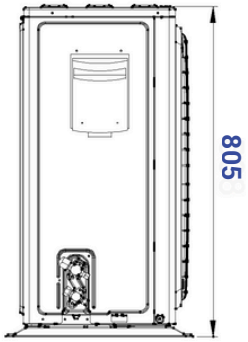
AL-H36/4DR1E

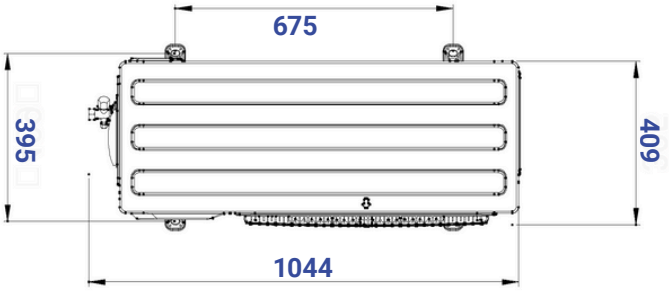


Outdoor unit

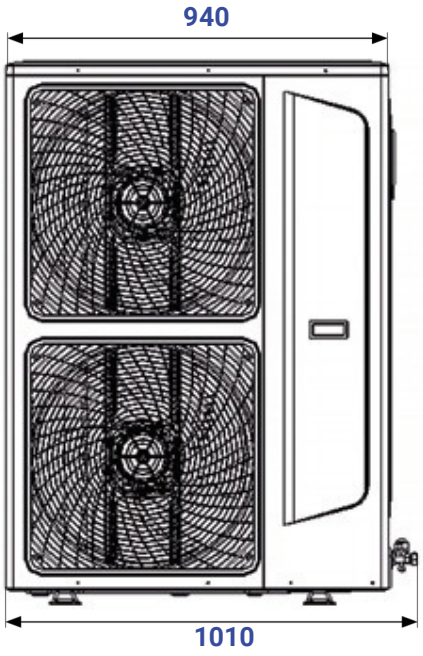
AL-H48/5DR1F

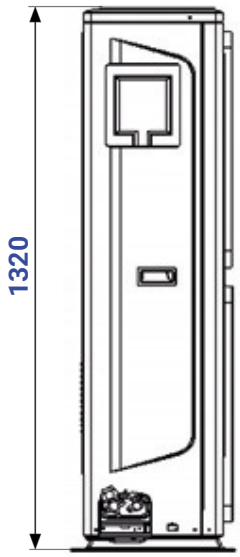


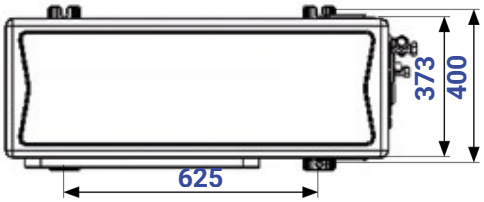




AL-H60/5DR1F

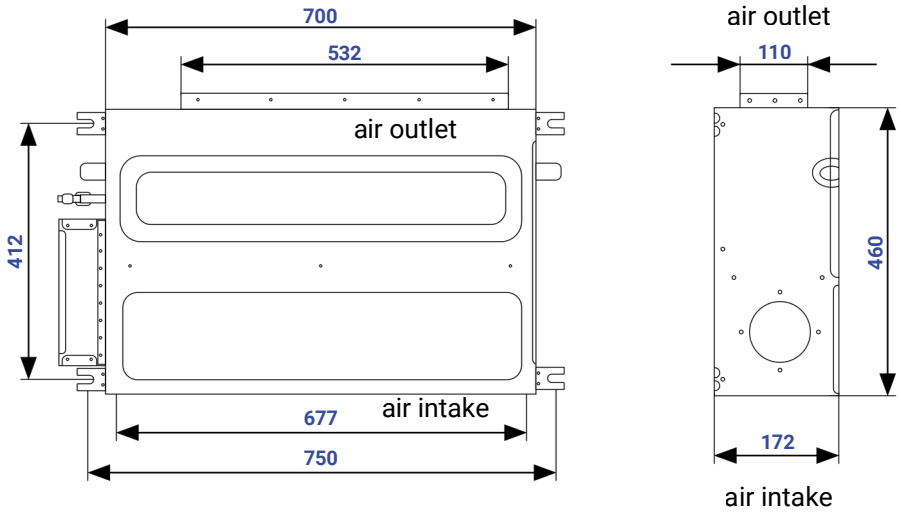




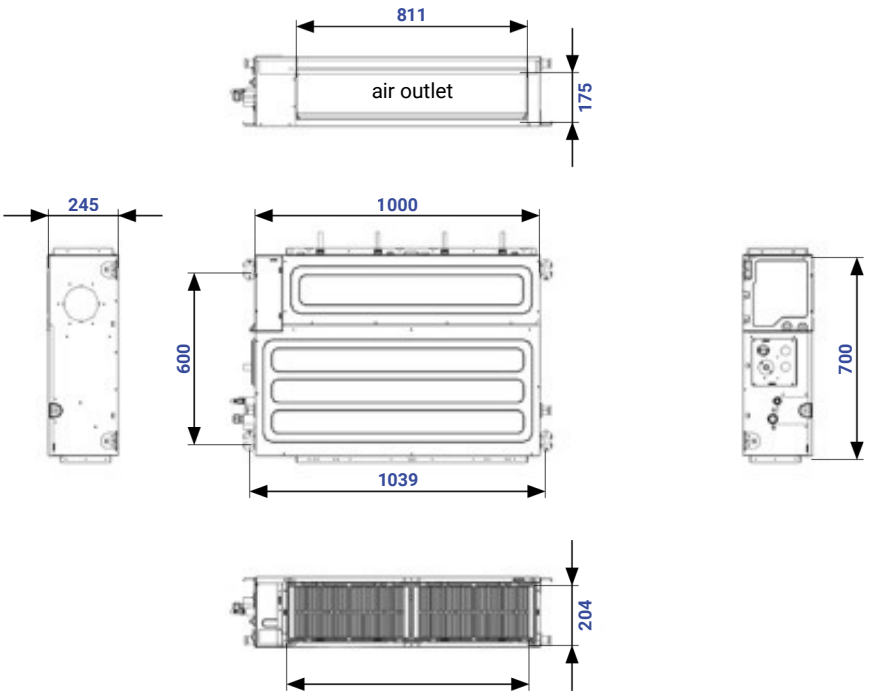


Indoor unit

ALLD-H12/4DR1YA

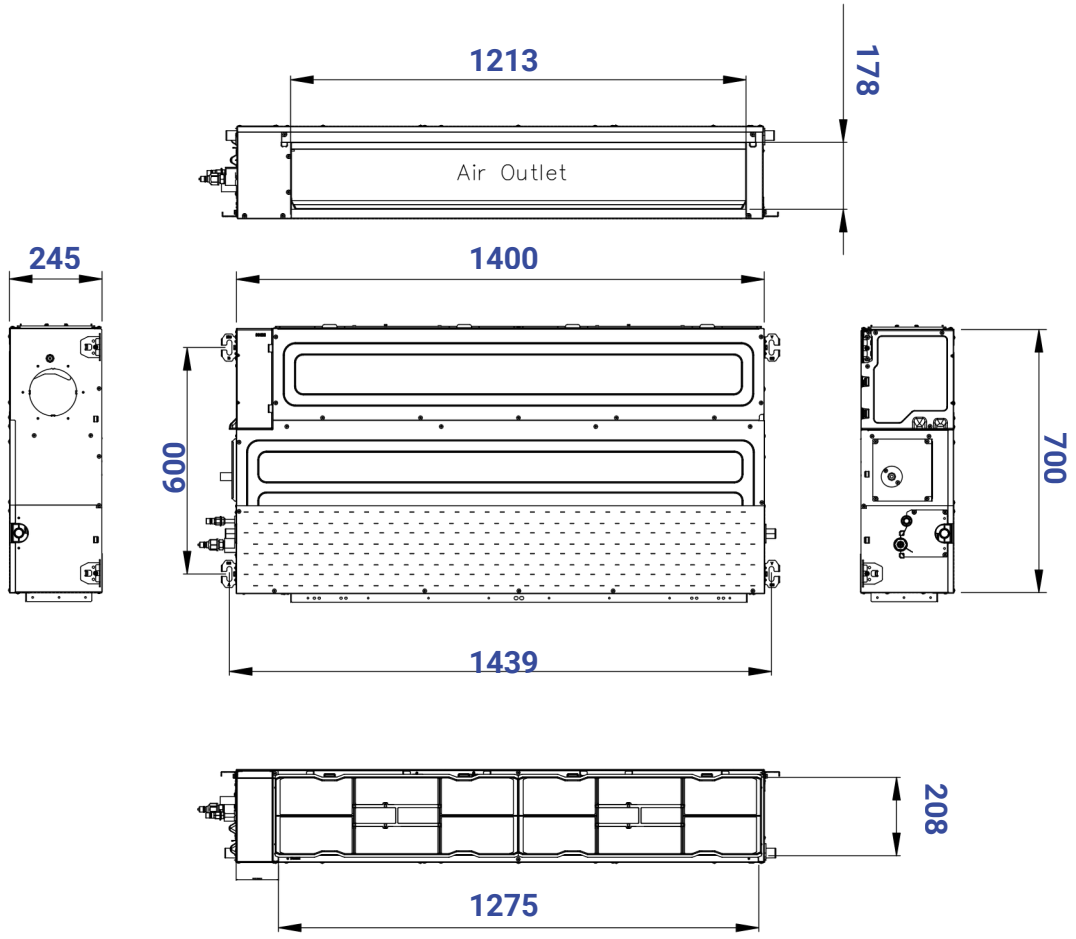


ALMD-H18/4DR1E ALMD-H24/4DR1F ALMD-H36/4DR1E



Indoor unit

ALMD-H48/5DR1F ALMD-H60/5DR1F



Outdoor Unit

Specification

Model			AL-H12/4DR1E	AL-H18/4DR1E	AL-H24/4DR1F
Power Supply		V~, Hz, Ph	220-240V~, 50, 1	220-240/50/1	220-240V~, 50, 1
Max. Input Consumption		W	1600	2300	3000
Max. Current		A	8	10, 00	13, 40
DC Inverter Compressor	Model		KSN98D34UER3	KSN140D53UFZM3	KTN150D53UFZC3
	Type		ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC
	Capacity	W	3065	4345	4580
	Input	W	790	1100	1192
	Frequency range	Hz	10-120	10-120	12-120
	Rated Current(RLA)	A	5. 35	6. 75	7, 3
	Refrigerant Oil	ml	300ml(ESTER OIL VG74)	ESTER OIL VG74•420 ml	350
Outdoor Fan Motor	Model		D-35-10L 310V	D-40-8	D-60-10M 310V
	Output Power x Fan quantity	W	35×1	40×1	60*1
Air Flow Volume		CFM	1294, 117647	1529	1850
		m^3/h	2200	2600	3150
Noise Level		dB(A)	52	54	56
Dimension(W×D×H)	Net	mm	709×536×280	785×300×555	825×335×655
	Packing	mm	825×345×595	900×380×615	945×435×725
Weight	Net	kg	23	29	32, 5
	Gross	kg	27	31	35, 5
Refrigerant Piping	Liquid Side	mm	6. 35(1/4)	6. 35(1/4)	9, 52
	Gas Side	mm	9. 52(3/8)	12. 7(1/2)	15, 88
	Drainage	mm	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)
	Max. Length	m	20	30	30
	Max. Height	m	15	15	15
Ambient Temperature Range(Cooling/Heating)		℃	5~48/-15~24	5~48/-15~24	5~48/-15~24

Model			AL-H36/4DR1E	AL-H48/5DR1F	AL-H60/5DR1F
Power Supply		V~, Hz, Ph	220-240V~, 50, 1	380-415, 50, 3	380-415, 50, 3
Max. Input Consumption		W	4090	6800	7200
Max. Current		A	21	12, 00	13, 00
DC Inverter Compressor	Model		KTM240D43UKUA2	KTF310D43UMT	KTF420D64UMVA
	Type		ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC
	Capacity	W	7160	10010	13350
	Input	W	1915	2765	3645
	Frequency range	Hz	12-120	12-120	12-120
	Rated Current(RLA)	A	8, 65	5, 38	6, 8
	Refrigerant Oil	ml	620	1000 (VG74)	1000 (ESTER OIL VG74)
Outdoor Fan Motor	Model		D-65-10A 310V	D-90-8	D-65-10N
	Output Power x Fan quantity	W	65*1	90*1	65×2
Air Flow Volume		CFM	2529, 411765	3588, 235294	4100
		m^3/h	4300	6100	7000
Noise Level		dB(A)	58	58	60
Dimension(W×D×H)	Net	mm	900×350×700	970×395×805	940×373×1320
	Packing	mm	1020×430×770	1105×495×885	1080×430×1440
Weight	Net	kg	45	66	82
	Gross	kg	49	70	91
Refrigerant Piping	Liquid Side	mm	9, 52	9. 52(3/8)	9. 52(3/8)
	Gas Side	mm	15, 88	15. 88(5/8)	15. 88(5/8)
	Drainage	mm	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)
	Max. Length	m	30	50	50
	Max. Height	m	15	30	30
Ambient Temperature Range(Cooling/Heating)		℃	5~48/-15~24	5~48/-15~24	5~48/-15~24

Indoor Unit

Specification

Model	Indoor		ALLD-H12/4DR1YA	ALMD-H18/4DR1E	ALMD-H24/4DR1F
	Outdoor		AL-H12/4DR1E	AL-H18/4DR1E	AL-H24/4DR1F
IDU Power Supply		V~, Hz, Ph	220-240/50/1	220-240/50/1	220-240V~, 50, 1
Capacity	Cooling	Btu/h	12000 (2050~13300)	18000 (5200~19100)	24000 (7400-25590)
		KW	3.52 (0.60~3.90)	5.28 (1.53~5.61)	7.00 (2.16-7.50)
	Heating	Btu/h	13000 (2390~14670)	19100 (4800~20300)	25590 (6755-25930)
		KW	3.81 (0.70~4.30)	5.60 (1.40~5.94)	7.50 (1.98-7.60)
Electric Data	Rated Cooling Power Input	KW	1.14 (0.30~1.40)	1.65 (0.47~2.05)	2.20 (0.67~2.70)
	Rated Heating Power Input	KW	1.19 (0.25~1.30)	1.55 (0.46~2.01)	2.05 (0.65~2.65)
	Rated Cooling Current	A	5.16 (1.33~6.21)	7.50 (2.25~9.81)	10.35 (3.21~11.98)
	Rated Heating Current	A	5.39 (1.11~5.77)	7.00 (2.20~9.62)	9.35 (3.11~11.76)
Performance	EER	W/W	3,09	3,20	3,18
	COP	W/W	3,20	3,61	3,66
Indoor Fan Fotor	Model		FP25E	FP90A	FP90A
	Brand		xinjun	xinjun	xinjun
	Output Power x Fan quantity	W	25×1	90×1	90×1
	Capacitor	uF	2.0	2.5	3
	Speed (Hi/Mi/Lo)	r/min	1070/1015/855/755/685	1020/950/900/850	1100/1000/870/800
Indoor Coil	a. Number Of Row		2	2	2
	b. Tube Pitch(a)x Row Pitch(b)	mm	20.5×12.7	20.5×12.7	20.5×12.7
	c. Fin Spacing	mm	1.4	1.5	1.5
	d. Fin Material		Hydrophilic aluminum fin	Hydrophilic aluminum fin	Hydrophilic aluminum fin
	e. Tube Outside Dia. and Material	mm	Φ7, Inner grooved	Φ7, Inner grooved	Φ7, Inner grooved
	f. Coil Length x Height x Width	mm	540*102.5*25.4	811*328*25.4	811*328*25.4
	G. Number of circuit	/	3	4	4
Indoor Unit	Indoor Air Flow	m^3/h	600/460/400/350	1100/950/800/680	1500/1250/1050/950
	Noise Level	dB(A)	35/32/29/26	43/41/40/38	43/41/40/38
	Noise Power Level	dB(A)	45/42/39/36	53/51/50/48	53/51/50/48
	External Static Pressure(Range)	Pa	0-30	0-120	0~120
	Static Pressure	Pa	13	25	25
	Net Dimension (W*H*D)	mm	700X460X200	1000X700X245	1000×700×245
	Packing Dimension (W*H*D)	mm	1000X580X275	1230X830X300	1230×830×300
	Net Weight	Kg	18	29	29
	Gross Weight	Kg	21	34	34
Refrigerant Pipe	Liquid Side	mm	6.35(1/4)	6.35(1/4)	9.52(3/8)
	Gas Side	mm	9.52(3/8)	12.7(1/2)	15.88(5/8)
	Drainage	mm	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)
Operation Temperature Range		℃	16~32	16~32	16~32
Wired Controller			XK-04	XK-05	XK-05

Model	Indoor		ALMD-H36/4DR1E	ALMD-H48/5DR1F	ALMD-H60/5DR1F
	Outdoor		AL-H36/4DR1E	AL-H48/5DR1F	AL-H60/5DR1F
IDU Power Supply		V~, Hz, Ph	220-240V~, 50, 1	220-240/50/1	220-240/50/1
Capacity	Cooling	Btu/h	36000(12280~37530)	48000 (14330~51250)	55000 (16400~59000)
		KW	10.55(3.60~11.00)	14.07(4.20~14.52)	16.12 (4.80~17.30)
	Heating	Btu/h	39880(9210~40940)	52000 (15700~58000)	63500 (16700~67600)
		KW	11.69(2.70~12.00)	15.24(4.60~17.00)	18.61 (4.90~19.80)
Electric Data	Rated Cooling Power Input	KW	3.50 (0.93~3.80)	5.02 (1.21~6.80)	5.97 (1.38~7.20)
	Rated Heating Power Input	KW	3.14 (0.95~3.56)	4.76(0.92~6.80)	5.81 (0.98~6.50)
	Rated Cooling Current	A	15.37(4.08~16.69)	10.00(2.50~11.50)	10.80 (2.85~12.00)
	Rated Heating Current	A	13.79(4.17~15.63)	8.80(1.90~10.20)	9.00 (2.02~10.00)
Performance	EER	W/W	3,01	2,8	2,7
	COP	W/W	3,72	3,20	3,20
Indoor Fan Fotor	Model		FP115B	FP200B	FP200B
	Brand		Xinjun	Xinjun	Xinjun
	Output Power x Fan quantity	W	115*1	200*1	200*1
	Capacitor	uF	6	10	/
	Speed (Hi/Mi/Lo)	r/min	1280/1070/870/770	1350/1150/950/800	1350/1150/950/800
Indoor Coil	a. Number Of Row		3	3	3
	b. Tube Pitch(a)x Row Pitch(b)	mm	20.5×12.7	19.05×11.6	20.5×12.7
	c. Fin Spacing	mm	1,5	1,3	1,5
	d. Fin Material		Hydrophilic aluminum fin	Hydrophilic aluminum	Hydrophilic aluminum fin
	e. Tube Outside Dia. and Material	mm	Φ7, Inner grooved	Φ5, Inner grooved	Φ7, Inner grooved
	f. Coil Length x Height x Width	mm	811×328×38.1	1211×324×34.8	1211*328*38.1
	G. Number of circuit	/	6	13	6
Indoor Unit	Indoor Air Flow	m^3/h	1500/1250/1050/950	2200/2000/1800/1600	2200/2000/1800/1600
	Noise Level	dB(A)	46/44/42/41	47/45/44/42	47/45/44/42
	Noise Power Level	dB(A)	56/54/52/51	57/55/54/53	57/55/54/53
	External Static Pressure(Range)	Pa	0-120	0-120	0-120
	Static Pressure	Pa	37	50	50
	Net Dimension (W*H*D)	mm	1000×700×245	1400X700X245	1400X700X245
	Packing Dimension (W*H*D)	mm	1230×830×300	1630X830X300	1630X830X300
	Net Weight	Kg	31	39	40
	Gross Weight	Kg	36	45,5	46
Refrigerant Pipe	Liquid Side	mm	9.52(3/8)	9.52(3/8)	9.52(3/8)
	Gas Side	mm	15.88(5/8)	15.88(5/8)	15.88(5/8)
	Drainage	mm	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)
Operation Temperature Range		℃	16~32	16~32	16~32
Wired Controller			XK-05	XK-05	XK-05