

DUCT TYPE SPLIT AIR CONDITIONER TECHNICAL SALES GUIDE

(GC201703)

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

TECHNICAL SALES GUIDE-50Hz/60Hz
CAPACITY RANGE:20~40kW
SUPER HIGH AMBIENT OPERATION TO 48 °C

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



R410A

GREE ELECTRIC APPLIANCES INC.OF ZHUHAI

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Duct Type Split Air Conditioner Technical Sales Guide

1 Products

1.1 Models List

Units Series	Model Name	Capacity (kW/Ton)		Ref	Appearance	
		Cooling	Heating		Outdoor	Indoor
Duct Type	FGR20Pd/DNa-X	20/5.6	22/6.16	R410A		
	FGR25Pd/DNa-X	25/7	27.5/7.7	R410A		
	FGR30Pd/DNa-X	30/8.4	33/9.24			
	FGR40Pd/D(2)Na-X	40/11.2	43/12.04	R410A		

1.2 Nomenclature

FG	R	40	Pd	/	D	Na	-	X	(I)
1	2	3	4		5	6		7	8

NO.	Description	Options
1	Ducted Type Air Conditioner	-
2	Unit type	Cooling only type-omitted
		Heat pump
		Auxiliary hot water plate and pipe type-W
3	Cooling capacity	Nominal cooling capacity (kW)
4	Frequency conversion system	Fixed frequency-omitted
		Frequency conversion-Pd
5	Design No.	Arranged based on A, B, C, D, and so on
6	Refrigerant	R22-omitted
		R407-N
		R410a-Na
		Others to be applied for when they are used
7	Power type	380-415V 3Ph ~ ,50Hz-X
		(The unit to be exported must be expressed)
8	Indoor and outdoor unit code	Outdoor unit-(O)
		Indoor unit-(I)
		The entire unit is not expressed.



1.3 Features

1.3.1 Outdoor Unit

This series unit adopts side air discharge design, with compact size, decreasing installation environment limit greatly. Features for the complete unit system are as below:

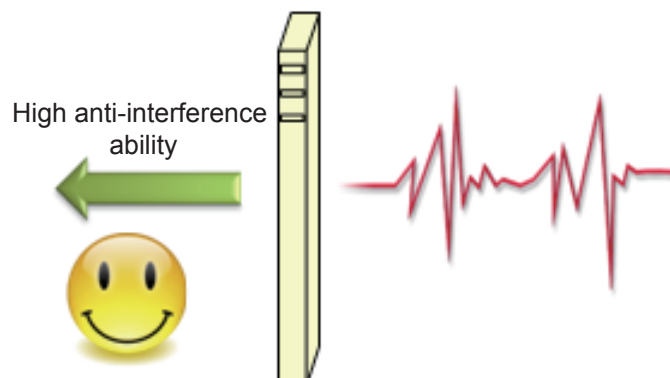
(1) High Efficiency

The system adopts all DC motor, which greatly improves efficiency.

- ① High-efficient magnetic reluctance inverter compressor: High-efficient magnetic reluctance compressor is adopted to take advantage of the magnetic reluctance torque of compressor. Under the same output capacity, the efficiency can be improved by 5%.
- ② Advanced torque control technology: minimum current and maximum torque control technology adopts the most optimized control principle to realize maximum torque output with minimum current and reduce loss of motor winding and intelligent power module for higher energy efficiency.
- ③ Closed-loop start-up technology of compressor: Self-innovative closed-loop start-up control is applied to enable output torque follow with load torque, whose start-up current is small and start-up is more reliable.
- ④ 180° sine wave DC variable speed technology: 180° current output waveform is smooth sine wave with small harmonic wave content, small torque pulsation, wide adjustable range and stable operation of motor, which can satisfy the temperature requirement in various occasion, save electricity greatly and ensure user's comfort in maximum.

(2) Latest CAN Bus Communication

The latest communication way-CAN bus communication is adopted, which greatly improves anti-interference ability, precisely controls the indoor unit and improves the reliability of system. Conventional communication wire can be used to increase the flexibility of project installation.



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(3) Long Connection Pipe and Big Height Difference

The connection pipe between indoor unit and outdoor unit can be as long as 50m. Project installation condition is wider while the limitation of installation distance is smaller. The max allowable height difference between indoor unit and outdoor unit is 30m.

(4) Wide Operation Range

The system can operate constantly and reliably in a wide temperature range (cooling: -7~48°C, heating: -15~24°C), which is not affected by atrocious environment.

(5) PID Intelligent Capacity Adjustment

The system applies the original technology of PID intelligent capacity adjustment, which quickly and precisely controls indoor ambient temperature according to set temperature, with small temperature fluctuation and great comfort.

1.3.2 Indoor Unit

◆ High Efficiency

DC inverter for efficiency and energy saving.

◆ High static pressure design

Static pressure can reach up to 250Pa, especially suitable for places in need of long distance airflow.

◆ Static pressure is adjustable

Static pressure can be adjusted manually or automatically. The unit is applicable for 0~250Pa static pressure.

◆ Less after-sales maintenance

The system fan adopts direct connection design, avoid the after-sales maintenance for replacing belt pulley.

◆ Intelligent filter cleaning reminding function

Monitor the change of motor current and rotation speed at real time; accurately judge the filth blockage of filter for real-time reminding.

1.4 Operation Range

Test condition	Indoor side		Outdoor side	
	DB(°C)	WB(°C)	DB(°C)	WB(°C)
Nominal cooling	27	19	35	24
Nominal heating	20	--	7	6
Maximum cooling	32	23	48	26
Low temp cooling	21	15	-7	--
Maximum cooling	27	--	24	18
Low temp heating	20	--	-15	--

2 Nomenclature

2.1 Product Data at Rated Condition

Models		Indoor Unit	FGR20Pd/DNa-X(I)	FGR25Pd/DNa-X(I)	
		Outdoor Unit	FGR20Pd/DNa-X(O)	FGR25Pd/DNa-X(O)	
Nominal Capacity At Rated ESP	Cooling	Btu/h	68200	85300	
		kW	20	25	
	Heating	Btu/h	75100	93800	
		kW	22	27.5	
Power Consumption	Cooling	kW	7.8	9.4	
	Heating		7.0	8.9	
Running Current	Cooling	A	16.5	18.9	
	Heating		15.6	17.2	
Refrigerant Type		R410a			
Refrigerant Charge		kg	6.4	8.0	
Power Supply		Ph/V/ Hz	1/220/50/60		
Indoor Unit	Fan	Type		Centrifugal / Direct Connection	
		Air flow	CFM	2178	2472
			m ³ /h	3700	4200
		Input Power	W	750	800
		Running Current	A	4.1	4.4
		Rated ESP	Pa	120	120
		Fan Motor Protection	—	Overload protection	
	Sound Pressure Level (H)	dB(A)	52	53	
	Coil	Tube	Material	Inner Groove Copper Tube	
			Diameter	7	7
Fin		Material	Aluminum		
		No.of Rows/FPI	—	3/16	3/16
Coil Area		Sqm	0.766	1.104	
Dimensions (Outline/Package)	Height	mm	365(385)	440(450)	
	Width		1460(1575)	1690(1785)	
	Depth		790(880)	870(985)	
Weight(Net/Gross)		kg	82/104	99/134	
System Operation Control		—	Wired Controller with LCD Display + Remote Controller		
Condensate Drainage(O.D)		mm	30		
Air Filter		—	Standard Washable and Synthetic		
Models		Indoor Unit	FGR20Pd/DNa-X(I)	FGR25Pd/DNa-X(I)	
		Outdoor Unit	FGR20Pd/DNa-X(O)	FGR25Pd/DNa-X(O)	

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Models		Indoor Unit	FGR30Pd/DNa-X(I)	FGR40Pd/D(2)Na-X(I)	
		Outdoor Unit	FGR30Pd/DNa-X(O)	FGR20Pd/DNa-X(O)×2	
Nominal Capacity At Rated ESP	Cooling	Btu/h	102400	136500	
		kW	30	40	
	Heating	Btu/h	112600	146700	
		kW	33	43	
Power Consumption	Cooling	kW	11.3	15.4	
	Heating		10.3	13.9	
Running Current	Cooling	A	22.7	27.8	
	Heating		20.7	26.4	
Refrigerant Type		R410a			
Refrigerant Charge		kg	9.5	6.4×2	
Power Supply		Ph/V/ Hz	1/220/50/60	3/380/50/60	
Indoor Unit	Fan	Type	Centrifugal / Direct Connection		
		Air flow	CFM	3060	4120
			m ³ /h	5200	7000
		Input Power	W	900	1350
		Running Current	A	4.9	2.7
		Rated ESP	Pa	120	120
		Fan Motor Protection	—	Overload protection	
	Sound Pressure Level (H)	dB(A)	55	56	
	Coil	Tube	Material	Inner Groove Copper Tube	
			Diameter	mm	7.94
Fin		Material	Aluminum		
		No.of Rows/FPI	—	3/16	3/16
Coil Area		Sqm	1.70	0.864	
Dimensions (Outline/Package)	Height	mm	440(450)	650(670)	
	Width		1690(1785)	1680(1800)	
	Depth		870(985)	900(1020)	
Weight(Net/Gross)		kg	105/145	175/210	
System Operation Control		—	Wired Controller with LCD Display + Remote Controller		
Condensate Drainage(O.D)		mm	30		
Air Filter		—	Standard Washable and Synthetic		

Note: Nominal capacities are based on the follow conditions.

	Indoor	Outdoor
Cooling	DB: 27°C (80.6 °F) WB: 19°C (66.2 °F)	DB: 35°C (95 °F) WB: /°C (/ °F)
Heating	DB: 20°C (68 °F) WB: /°C (/ °F)	DB: 7°C (44.6 °F) WB: 6°C (42.8 °F)
Piping Length	7.5m	

2.2 Cooling/Heating Capacity Correction

2.2.1 Cooling Capacity Correction

Model	Outdoor air temp (°C DB)	Indoor air temp						
		20.0°C DB	23.0°C DB	26.0°C DB	27.0°C DB	28.0°C DB	30.0°C DB	32.0°C DB
		14.0°C WB	16.0°C WB	18.0°C WB	19.0°C WB	20.0°C WB	22.0°C WB	24.0°C WB
		kW	kW	kW	kW	kW	kW	kW
FGR20Pd/DNa-X	10	13.5	16.0	18.8	20.0	21.2	24.0	25.3
	12	13.5	16.0	18.8	20.0	21.2	24.0	24.8
	14	13.5	16.0	18.8	20.0	21.2	24.0	24.7
	15	13.5	16.0	18.8	20.0	21.2	23.8	24.3
	18	13.5	16.0	18.8	20.0	21.2	23.5	24.0
	20	13.5	16.0	18.8	20.0	21.2	23.2	23.5
	21	13.5	16.0	18.8	20.0	21.2	23.0	23.5
	23	13.5	16.0	18.8	20.0	21.2	22.7	23.0
	25	13.5	16.0	18.8	20.0	21.2	22.3	22.8
	27	13.5	16.0	18.8	20.0	21.2	22.0	22.5
	29	13.5	16.0	18.8	20.0	21.0	21.7	22.2
	31	13.5	16.0	18.8	20.0	20.8	21.3	21.8
	33	13.5	16.0	18.8	20.0	20.5	21.0	21.5
	35	13.5	16.0	18.8	20.0	20.2	20.7	21.3
	37	13.5	16.0	18.8	19.5	20.0	20.5	21.0
	39	13.5	16.0	18.8	19.3	19.5	20.0	20.5
	41	13.5	16.0	18.8	19.3	19.5	20.0	20.3
43	13.5	16.0	18.8	19.3	19.3	19.8	20.2	
45	13.5	16.0	18.5	19.0	19.2	19.7	20.0	
47	13.5	16.0	18.5	18.5	18.8	19.5	19.7	
48	13.5	16.0	18.2	18.5	18.7	19.3	19.5	
FGR25Pd/DNa-X	10	16.9	20.0	23.5	25.0	26.5	30.0	31.7
	12	16.9	20.0	23.5	25.0	26.5	30.0	31.0
	14	16.9	20.0	23.5	25.0	26.5	30.0	30.8
	15	16.9	20.0	23.5	25.0	26.5	29.8	30.4
	18	16.9	20.0	23.5	25.0	26.5	29.4	30.0
	20	16.9	20.0	23.5	25.0	26.5	29.0	29.4
	21	16.9	20.0	23.5	25.0	26.5	28.8	29.4
	23	16.9	20.0	23.5	25.0	26.5	28.3	28.8
	25	16.9	20.0	23.5	25.0	26.5	27.9	28.5
	27	16.9	20.0	23.5	25.0	26.5	27.5	28.1
	29	16.9	20.0	23.5	25.0	26.3	27.1	27.7
	31	16.9	20.0	23.5	25.0	26.0	26.7	27.3
	33	16.9	20.0	23.5	25.0	25.6	26.3	26.9
	35	16.9	20.0	23.5	25.0	25.2	25.8	26.7
	37	16.9	20.0	23.5	24.4	25.0	25.6	26.3
	39	16.9	20.0	23.5	24.2	24.4	25.0	25.6
	41	16.9	20.0	23.5	24.2	24.4	25.0	25.4
43	16.9	20.0	23.5	24.2	24.2	24.8	25.2	
45	16.9	20.0	23.1	23.8	24.0	24.6	25.0	
47	16.9	20.0	23.1	23.1	23.5	24.4	24.6	
48	16.9	20.0	22.7	23.1	23.3	24.2	24.4	

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Model	Outdoor air temp (°C DB)	Indoor air temp						
		20.0°C DB	23.0°C DB	26.0°C DB	27.0°C DB	28.0°C DB	30.0°C DB	32.0°C DB
		14.0°C WB	16.0°C WB	18.0°C WB	19.0°C WB	20.0°C WB	22.0°C WB	24.0°C WB
		kW	kW	kW	kW	kW	kW	kW
FGR30Pd/DNa-X	10	20.3	24.0	28.3	30.0	31.8	36.0	38.0
	12	20.3	24.0	28.3	30.0	31.8	36.0	37.3
	14	20.3	24.0	28.3	30.0	31.8	36.0	37.0
	15	20.3	24.0	28.3	30.0	31.8	35.8	36.5
	18	20.3	24.0	28.3	30.0	31.8	35.3	36.0
	20	20.3	24.0	28.3	30.0	31.8	34.8	35.3
	21	20.3	24.0	28.3	30.0	31.8	34.5	35.3
	23	20.3	24.0	28.3	30.0	31.8	34.0	34.5
	25	20.3	24.0	28.3	30.0	31.8	33.5	34.3
	27	20.3	24.0	28.3	30.0	31.8	33.0	33.8
	29	20.3	24.0	28.3	30.0	31.5	32.5	33.3
	31	20.3	24.0	28.3	30.0	31.3	32.0	32.8
	33	20.3	24.0	28.3	30.0	30.8	31.5	32.3
	35	20.3	24.0	28.3	30.0	30.3	31.0	32.0
	37	20.3	24.0	28.3	29.3	30.0	30.8	31.5
	39	20.3	24.0	28.3	29.0	29.3	30.0	30.8
	41	20.3	24.0	28.3	29.0	29.3	30.0	30.5
	43	20.3	24.0	28.3	29.0	29.0	29.8	30.3
45	20.3	24.0	27.8	28.5	28.8	29.5	30.0	
47	20.3	24.0	27.8	27.8	28.3	29.3	29.5	
48	20.3	24.0	27.3	27.8	28.0	29.0	29.3	
FGR40Pd/D(2)Na-X	10	27.0	32.0	37.7	40.0	42.3	48.0	50.7
	12	27.0	32.0	37.7	40.0	42.3	48.0	49.7
	14	27.0	32.0	37.7	40.0	42.3	48.0	49.3
	15	27.0	32.0	37.7	40.0	42.3	47.7	48.7
	18	27.0	32.0	37.7	40.0	42.3	47.0	48.0
	20	27.0	32.0	37.7	40.0	42.3	46.3	47.0
	21	27.0	32.0	37.7	40.0	42.3	46.0	47.0
	23	27.0	32.0	37.7	40.0	42.3	45.3	46.0
	25	27.0	32.0	37.7	40.0	42.3	44.7	45.7
	27	27.0	32.0	37.7	40.0	42.3	44.0	45.0
	29	27.0	32.0	37.7	40.0	42.0	43.3	44.3
	31	27.0	32.0	37.7	40.0	41.7	42.7	43.7
	33	27.0	32.0	37.7	40.0	41.0	42.0	43.0
	35	27.0	32.0	37.7	40.0	40.3	41.3	42.7
	37	27.0	32.0	37.7	39.0	40.0	41.0	42.0
	39	27.0	32.0	37.7	38.7	39.0	40.0	41.0
	41	27.0	32.0	37.7	38.7	39.0	40.0	40.7
	43	27.0	32.0	37.7	38.7	38.7	39.7	40.3
45	27.0	32.0	37.0	38.0	38.3	39.3	40.0	
47	27.0	32.0	37.0	37.0	37.7	39.0	39.3	
48	27.0	32.0	36.3	37.0	37.3	38.7	39.0	

2.2.2 Heating Capacity Correction

Model	Outdoor air temp		Indoor air temp					
			16.0°C DB	18.0°C DB	20.0°C DB	22.0°C DB	24.0°C DB	26.0°C DB
	°C DB	°C WB	kW	kW	kW	kW	kW	kW
FGR20Pd/DNα-X	-20	-20.2	12.3	12.3	12.3	12.3	12.3	12.3
	-15	-15.3	14.1	14.1	14.1	14.1	14.1	14.1
	-13	-13.4	15.0	15.0	15.0	15.0	15.0	14.1
	-11	-11.4	15.8	15.8	15.8	15.8	15.8	15.8
	-9	-9.5	15.8	15.8	15.8	15.8	15.8	15.8
	-7	-7.5	16.7	16.7	16.7	16.7	16.7	15.8
	-5	-5.6	17.6	17.6	17.6	17.6	17.6	17.6
	-2	-2.7	18.5	18.5	18.5	18.5	18.5	17.6
	0	-0.7	19.4	19.4	19.4	19.4	18.5	17.6
	2	1.2	21.1	21.1	21.1	20.2	18.5	17.6
	4	3.1	21.1	21.1	21.1	20.2	18.5	17.6
	7	6	22.0	22.0	22.0	20.2	18.5	17.6
	9	7.9	22.9	22.9	22.0	20.2	18.5	17.6
	11	9.8	23.8	23.8	22.0	20.2	18.5	17.6
	13	11.8	24.6	23.8	22.0	20.2	18.5	17.6
	15	13.7	25.5	23.8	22.0	20.2	18.5	17.6
17	15.6	26.4	23.8	22.0	20.2	18.5	17.6	
19	17.5	26.4	23.8	22.0	20.2	18.5	17.6	
21	19.5	26.4	23.8	22.0	20.2	18.5	17.6	
24	22.3	26.4	23.8	22.0	20.2	18.5	17.6	
FGR25Pd/DNα-X	-20	-20.2	15.4	15.4	15.4	15.4	15.4	15.4
	-15	-15.3	17.6	17.6	17.6	17.6	17.6	17.6
	-13	-13.4	18.7	18.7	18.7	18.7	18.7	17.6
	-11	-11.4	19.8	19.8	19.8	19.8	19.8	19.8
	-9	-9.5	19.8	19.8	19.8	19.8	19.8	19.8
	-7	-7.5	20.9	20.9	20.9	20.9	20.9	19.8
	-5	-5.6	22.0	22.0	22.0	22.0	22.0	22.0
	-2	-2.7	23.1	23.1	23.1	23.1	23.1	22.0
	0	-0.7	24.2	24.2	24.2	24.2	23.1	22.0
	2	1.2	26.4	26.4	26.4	25.3	23.1	22.0
	4	3.1	26.4	26.4	26.4	25.3	23.1	22.0
	7	6	27.5	27.5	27.5	25.3	23.1	22.0
	9	7.9	28.6	28.6	27.5	25.3	23.1	22.0
	11	9.8	29.7	29.7	27.5	25.3	23.1	22.0
	13	11.8	30.8	29.7	27.5	25.3	23.1	22.0
	15	13.7	31.9	29.7	27.5	25.3	23.1	22.0
17	15.6	33.0	29.7	27.5	25.3	23.1	22.0	
19	17.5	33.0	29.7	27.5	25.3	23.1	22.0	
21	19.5	33.0	29.7	27.5	25.3	23.1	22.0	
24	22.3	33.0	29.7	27.5	25.3	23.1	22.0	

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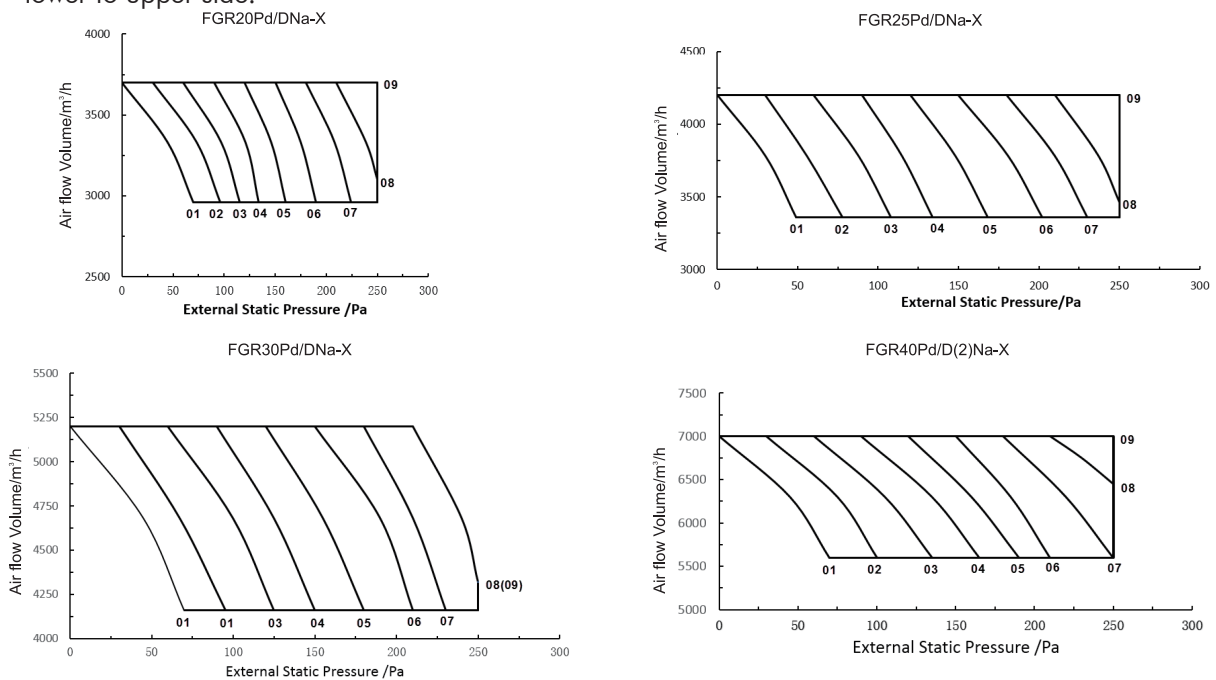
Model	Outdoor air temp		Indoor air temp					
			16.0°C DB	18.0°C DB	20.0°C DB	22.0°C DB	24.0°C DB	26.0°C DB
	°C DB	°C WB	kW	kW	kW	kW	kW	kW
FGR30Pd/DNa-X	-20	-20.2	18.5	18.5	18.5	18.5	18.5	18.5
	-15	-15.3	21.1	21.1	21.1	21.1	21.1	21.1
	-13	-13.4	22.4	22.4	22.4	22.4	22.4	21.1
	-11	-11.4	23.8	23.8	23.8	23.8	23.8	23.8
	-9	-9.5	23.8	23.8	23.8	23.8	23.8	23.8
	-7	-7.5	25.1	25.1	25.1	25.1	25.1	23.8
	-5	-5.6	26.4	26.4	26.4	26.4	26.4	26.4
	-2	-2.7	27.7	27.7	27.7	27.7	27.7	26.4
	0	-0.7	29.0	29.0	29.0	29.0	27.7	26.4
	2	1.2	31.7	31.7	31.7	30.4	27.7	26.4
	4	3.1	31.7	31.7	31.7	30.4	27.7	26.4
	7	6	33.0	33.0	33.0	30.4	27.7	26.4
	9	7.9	34.3	34.3	33.0	30.4	27.7	26.4
	11	9.8	35.6	35.6	33.0	30.4	27.7	26.4
	13	11.8	37.0	35.6	33.0	30.4	27.7	26.4
	15	13.7	38.3	35.6	33.0	30.4	27.7	26.4
17	15.6	39.6	35.6	33.0	30.4	27.7	26.4	
19	17.5	39.6	35.6	33.0	30.4	27.7	26.4	
21	19.5	39.6	35.6	33.0	30.4	27.7	26.4	
24	22.3	39.6	35.6	33.0	30.4	27.7	26.4	
FGR40Pd/D(2)Na-X	-20	-20.2	24.6	24.6	24.6	24.6	24.6	24.6
	-15	-15.3	28.2	28.2	28.2	28.2	28.2	28.2
	-13	-13.4	29.9	29.9	29.9	29.9	29.9	28.2
	-11	-11.4	31.7	31.7	31.7	31.7	31.7	31.7
	-9	-9.5	31.7	31.7	31.7	31.7	31.7	31.7
	-7	-7.5	33.4	33.4	33.4	33.4	33.4	31.7
	-5	-5.6	35.2	35.2	35.2	35.2	35.2	35.2
	-2	-2.7	37.0	37.0	37.0	37.0	37.0	35.2
	0	-0.7	38.7	38.7	38.7	38.7	37.0	35.2
	2	1.2	42.2	42.2	42.2	40.5	37.0	35.2
	4	3.1	42.2	42.2	42.2	40.5	37.0	35.2
	7	6	44.0	44.0	44.0	40.5	37.0	35.2
	9	7.9	45.8	45.8	44.0	40.5	37.0	35.2
	11	9.8	47.5	47.5	44.0	40.5	37.0	35.2
	13	11.8	49.3	47.5	44.0	40.5	37.0	35.2
	15	13.7	51.0	47.5	44.0	40.5	37.0	35.2
17	15.6	52.8	47.5	44.0	40.5	37.0	35.2	
19	17.5	52.8	47.5	44.0	40.5	37.0	35.2	
21	19.5	52.8	47.5	44.0	40.5	37.0	35.2	
24	22.3	52.8	47.5	44.0	40.5	37.0	35.2	

3 Electrical Specifications

Model	Power Supply	Circuit Breaker Capacity (A)	Minimum Sectional Area of Ground Wire (mm ² /AWG)	Minimum Sectional Area of Power Cord (mm ² /AWG)
FGR20Pd/DNa-X(O)	380-415V 3N~ 50/60HZ	20	1×2.5	4×2.5
FGR20Pd/DNa-X(I)	220V~50/60HZ	10	1×1.5	2×1.5
FGR25Pd/DNa-X(O)	380-415V 3N~ 50/60HZ	25	1×2.5	4×2.5
FGR25Pd/DNa-X(I)	220V~50/60HZ	10	1×1.5	2×1.5
FGR30Pd/DNa-X(O)	380-415V 3N~ 50/60HZ	32	1×4.0	4×4.0
FGR30Pd/DNa-X(I)	220V~50/60HZ	10	1×1.5	2×1.5
FGR40Pd/D(2)Na-X(I)	380-415V 3N~ 50/60HZ	10	1×1.5	4×1.5

4 Fan Characteristics

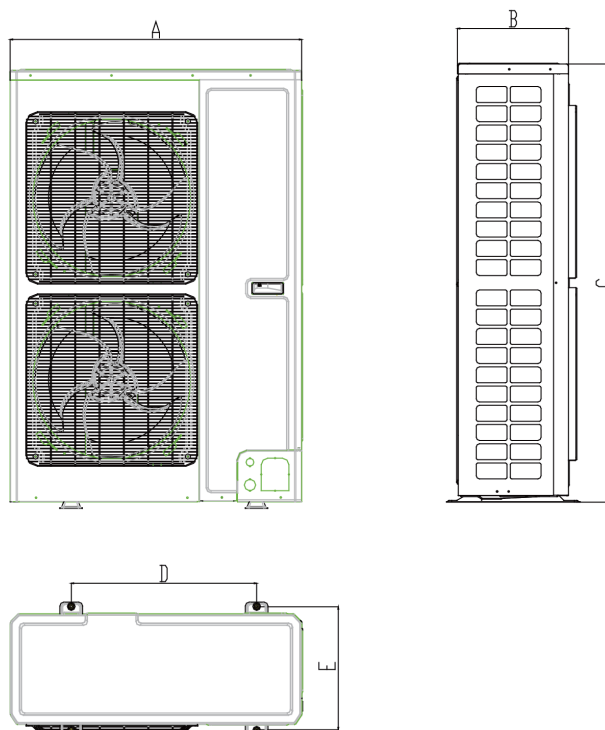
When this unit is installed, select the static pressure according to the actual air volume. There're 9 static pressure notches for selection. Please refer to the Installation, Debugging and Maintenance Manual for the adjustment method for the static pressure. The curve diagram between air volume and static pressure is as below. The corresponding static pressure is from notch 1 to notch 9 for the curve from lower to upper side.



5 Dimensional Data and Unit Installation Space Requirements

5.1 Dimensional Data

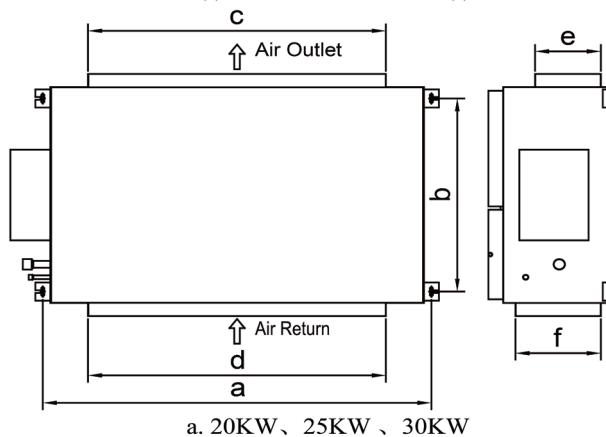
The outdoor unit:



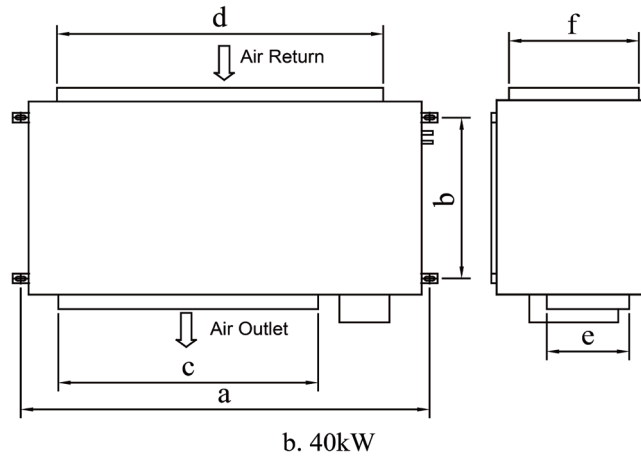
Model	A	B	C	D	E
FGR20Pd/DNa-X(O)	940	320	1430	632	350
FGR25Pd/DNa-X(O)	940	460	1615	610	486
FGR30Pd/DNa-X(O)	940	460	1615	610	486

The indoor unit:

FGR20Pd/DNa-X(I)、FGR25Pd/DNa-X(I)、FGR30Pd/DNa-X(I):



FGR40Pd/D(2)Na-X(I):

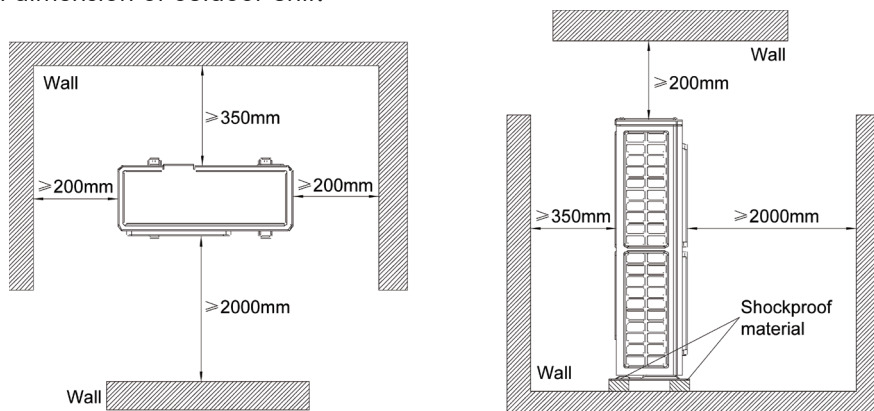


Unit: mm

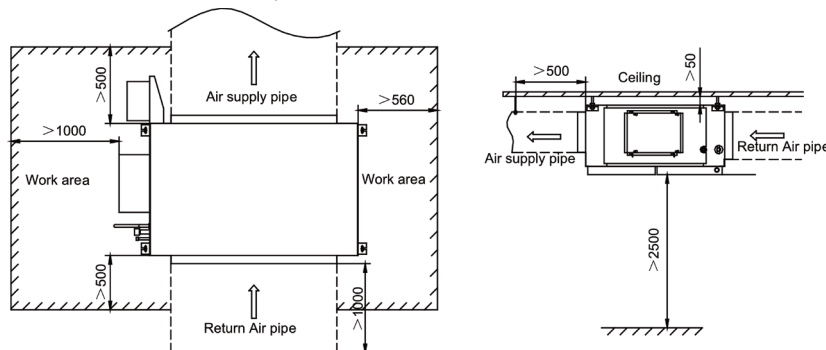
Model	a	b	c	d	e	f
FGR20Pd/DNa-X(I)	1334	632	990	1150	192	363
FGR25Pd/DNa-X(I)	1541	705	980	1350	270	420
FGR30Pd/DNa-X(I)	1541	705	980	1350	270	420
FGR40Pd/D(2)Na-X(I)	1730	760	1160	1450	360	560

5.2 Installation space requirements

Installation dimension of outdoor unit:



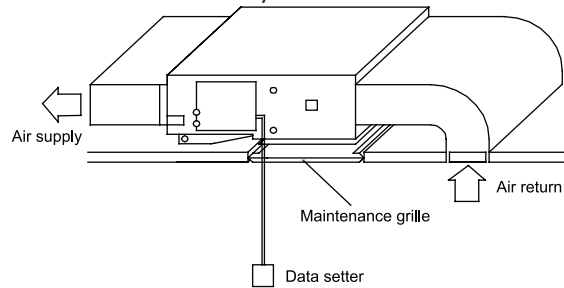
Installation dimension of indoor unit:



5.3 Precautions on the indoor unit design

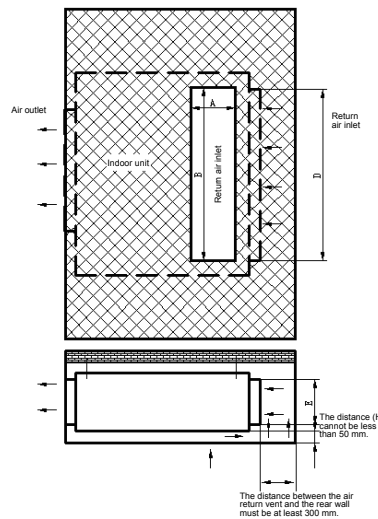
The following aspects must be specially noted in consideration of the indoor unit location:

- (1) The location should satisfy the optimal airflow organization for air conditioner in the actual project, and implement the most uniform distribution of temperature.
- (2) Avoid mixed use of air ducts for air supply and air return in different air conditioning areas.
- (3) When the indoor unit in the air supply mode of air duct is selected, it is preferred to adopt the rear air return mode for the unit to further efficiently reduce the air return noise of the unit.



- (4) In locating, consider whether air return of the unit will be affected. For the indoor unit in the air supply mode of air duct, the air return frame must be more than 300 mm away from the back wall (rear air return mode) or other barriers.

- (5) If the unit uses the rear air return mode and the ceiling uses the air return mode directly below the unit, the distance between the unit bottom and the ceiling must be over 50 mm. Meanwhile, the effective circulation area between the unit bottom and the ceiling cannot be smaller than the air return vent area of the unit. For example:



Air return area of the unit: $S1 = D \times E$

Air return vent circumference of the ceiling: $L = 2 \times (A + B)$

Effective air return area of the ceiling: $S2 = L \times H$

$S2$ cannot be smaller than $S1$. The distance H between the ceiling and the unit cannot be smaller than 50 mm.

- (6) No barrier blocking air flow should exist at the air inlet or outlet of the indoor unit. The indoor unit should be installed at a position 2.3 m higher than the floor.

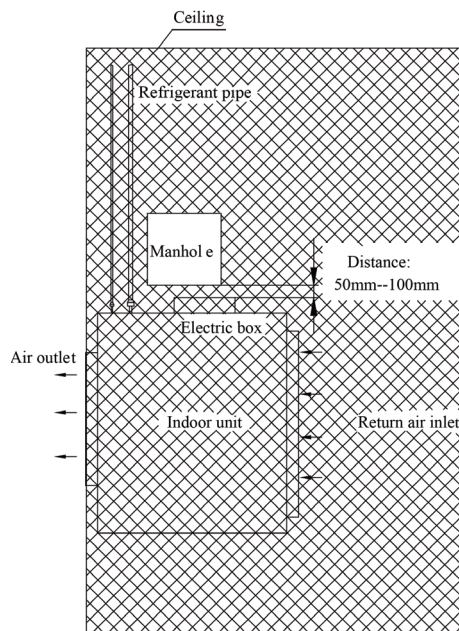
- (7) For the indoor unit with the rated Cooling capacity greater than 5.6 Kw, an air supply duct should be additionally added, and the air duct and air outlet should be set properly to reduce noises.

- (8) A sufficient maintenance space should be reserved in locating the unit.

➔ 5.4 Locating the manhole and air return vent

In addition to consideration of the sufficient maintenance space to be reserved during unit locating, it is also important to locate the manhole. If manhole locating is improper, it will also make future maintenance and repair more difficult.

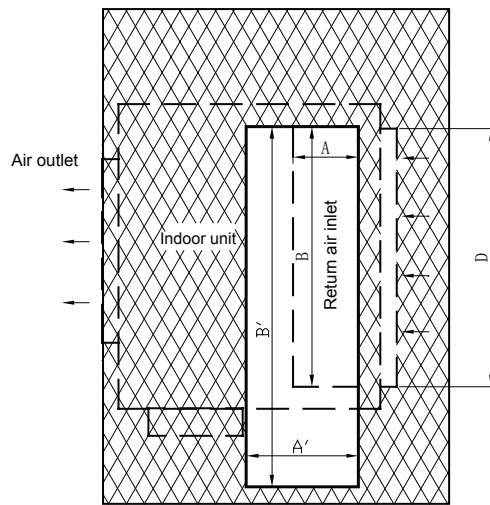
The manhole size can accommodate the shoulder width of a normal adult. It cannot be smaller than 450 mm × 450 mm. Usually the indoor unit in the air supply mode of air duct is located at the electric box side of the unit, the distance from the electric box is 50 mm to 100 mm, and maintenance of the pipeline part must also be considered. The pipeline maintenance position of the pipeline is mainly considered for the air raise type indoor unit, so the manhole can be located at a position that ensures the distance between one edge and the connection pipe is 200 mm to 250 mm. The schematic diagram is shown below:



The air return vent position must also be considered for the indoor unit in the air supply mode of air duct. The air return vent is responsible for air return of the unit, and also used to complete maintenance of the indoor fan motor and filter screen. Therefore, in addition to meeting the air return design requirements mentioned above, there is a must to ensure the requirement for replacing the motor and filter screen.

- (1) Do not set the air return vent of the unit near the door, toilet or kitchen; otherwise problems such as condensation and peculiar smell may be caused.
- (2) The length direction of the air return vent cannot be smaller than 2/3 of the air return vent length of the unit.
- (3) If the air return vent is set directly behind the unit, the distance between its position and the unit cannot be greater than 300 mm. The width direction of the air return vent cannot be smaller than 200 mm.
- (4) For the design of also using the air return vent as a manhole for the electric box, the maintenance position should also be reserved at the electric box side according to the above principle. At the same time, it is required to consider whether the position of the air return vent can ensure easy removal and replacement of the fan motor and filter screen. Therefore, the air return vent should be enlarged to 1.5 to 2 times of the original circulation area according to the actual conditions and on the basis of satisfying the air volume design. The schematic diagram is shown below:

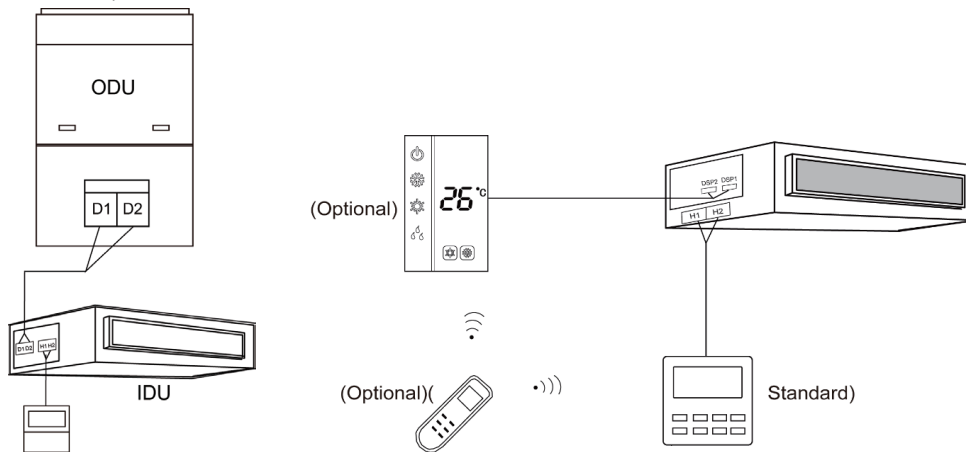
Duct Type Split Air Conditioner Technical Sales Guide



Original air return vent area: $S = A \times B$
 Currently air return vent area: $S' = A' \times B'$
 $S' \geq (1.5 \sim 2.0)S$

6 Requirements for Communication Mode

The indoor unit and the wired controller are connected following modes, which are respectively shown in Figure below:



7 ACCESSORIES

Accessories name	Model name	Standard	Optional	Prepared by the user
Wired controller	XK46	√		
Wireless controller	YAP1F		√	
Remote controller for debugging	ME40-00/B		√	
Communication cable				√
Connection wire of the wired controller				√
Power cord				√
Duct pipe and the connector				√
Insulation material for the duct pipe				√
Filter screen		√		
Connecting pipeline between indoor and outdoor units				√
Drain pipe				√

8 Sales Areas

No.	Product Series	Export to European	Other areas
1	Duct Type Split Air Conditioner Inverter Series	√	√

√Indicates the product can be exported to this area.
 ×Indicates the product can't be exported to this area.

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