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## FXDQ-PBVE

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# 1 Specifications

1-1 TECHNICAL SPECIFICATIONS				FXDQ20PBVE	FXDQ25PBVE	FXDQ32PBVE					
Capacity	Cooling	kW		2.2	2.8	3.6					
	Heating	kW		2.5	3.2	4.0					
Casing	Material			Galvanised steel plate							
Dimensions	Unit	Height	mm	200	200	200					
		Width	mm	700	700	700					
		Depth	mm	620	620	620					
Weight	Unit		kg	23	23	23					
Heat Exchanger	Dimensions	Nr of Rows		2	2	3					
		Fin Pitch	mm	1.5	1.5	1.5					
		Face Area	m <sup>2</sup>	0.126	0.126	0.126					
		Nr of Stages		12	12	12					
Fan	Type			Sirocco fan							
Air Flow Rate	Cooling	High high	m <sup>3</sup> /min	8.0	8.0	8.0					
		High	m <sup>3</sup> /min	7.2	7.2	7.2					
		Medium	m <sup>3</sup> /min	6.4	6.4	6.4					
Fan	External static pressure	High	Pa	30	30	30					
		Standard	Pa	10	10	10					
	Motor	Output (high)	W	62	62	62					
		Drive			Direct drive						
Cooling	Sound Pressure	High high	dBA	33	33	33					
		High	dBA	31	31	31					
		Medium	dBA	29	29	29					
Piping connections	Liquid (OD)	Type		Flare connection							
		Diameter	mm	6.35	6.35	6.35					
	Gas	Type		Flare connection							
		Diameter	mm	12.7	12.7	12.7					
	Drain	Diameter	mm	VP20 (I.D. 20/O.D. 26)							
Sound absorbing insulation			Foamed polyethylene								
Air Filter	Removable/washable/Mildew proof										
Refrigerant control	Electronic expansion valve										
Temperature control	Microprocessor thermostat for cooling and heating										
Safety devices	Fuse										
	Fan motor thermal protector										
Standard Accessories	Standard Accessories					Operation manual					
						Installation manual					
						Drain hose					
						Sealing pads					
						Clamps					
						Washer					
						Insulation for fitting					
						Clamp metal					
						Washer fixing plate					
						Screws for duct flanges					
						Air filter					
						Product Quality Certificate					
						Notes	Nominal cooling capacities are based on : indoor temperature : 27×CDB, 19×CWB, outdoor temperature : 35×CDB, equivalent refrigerant piping : 7,5m (horizontal)				
							Nominal heating capacities are based on : indoor temperature : 20×CDB, outdoor temperature : 7×CDB, 6×CWB, equivalent refrigerant piping : 7.5m (horizontal)				
Capacities are net, including a deduction for cooling (an addition for heating) for indoor fan motor heat.											
External static pressure is changeable to set by the remote control; this pressure means : high static pressure - standard static pressure.											
The operation sound levels are conversion values in anechoic chamber. In practice, sound levels tend to be higher than the specified values due to ambient noise or reflection. When the suction place is changed to bottom suction, sound level will increase											

# 1 Specifications

1-2 ELECTRICAL SPECIFICATIONS (50HZ)		FXDQ20PBVE	FXDQ25PBVE	FXDQ32PBVE
Power Supply	Name	VE		
	Phase	1~		
	Frequency	Hz	50	50
	Voltage	V	220-240	

1-3 ELECTRICAL SPECIFICATIONS (60HZ)		FXDQ20PBVE	FXDQ25PBVE	FXDQ32PBVE
Power Supply	Name	VE		
	Phase	1~		
	Frequency	Hz	60	60
	Voltage	V	220	220

1  
1

## 2 Safety device settings

FXDQ20,25,32PB

FXDQ40,50,63NB

Kit name	FXDQ20PB	FXDQ25PB	FXDQ32PB	FXDQ40NB	FXDQ50NB	FXDQ63NB
PC board (A1P) fuse	250V 5A					
Fan motor thermal protector	OFF: 250V 5A ± 5°C OFF ON: 83 ± 15°C ON					

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1  
2

### 3 Options

**FXDQ20,25,32PB**  
**FXDQ40,50,63NB**

**Individual control systems**

Kit name		FXDQ20PBVE FXDQ25PBVE FXDQ32PBVE	FXDQ40NBVE FXDQ50NBVE	FXDQ63NBVE
Wired remote control			BRC1D52	
Infrared remote control	H/P		BRC4C65	
	C/O		BRC4C66	
Simplified remote control			BRC2C51	
Remote control for hotel use			BRC3A61	

**Centralized control system**

Kit name		FXDQ20PBVE FXDQ25PBVE FXDQ32PBVE	FXDQ40NBVE FXDQ50NBVE	FXDQ63NBVE
Central remote control			DCS302CA51	
Unified on/off control			DCS301BA51	
Schedule timer			DST301BA51	

**Other options**

Kit name		FXDQ20PBVE FXDQ25PBVE FXDQ32PBVE	FXDQ40NBVE FXDQ50NBVE	FXDQ63NBVE
Adapter for wiring			KRP1B56	
Wiring adapter for electrical appendices (1)			KRP2A53	
Wiring adapter for electrical appendices (2)			KRP4A54	
Remote sensor			KRCS01-1B	
Installation box for adapter PCB.			KBP1BA101	
Electrical box with earth terminal	2 blocks		KJB212AA	
	3 blocks		KJB311AA	
Noise filter (for electromagnetic interface use only)			DST301BA51	
External control adapter for outdoor unit (must be installed on indoor units)			DTA104A53	
Insulation kit for high humidity		KDT25N32	KDT25N50	KDT25N63

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# 4 Capacity tables

## 4 - 1 Cooling capacity tables

FXDQ20,25,32P

TC: Total capacity,kW – SHC: Sensible capacity,kW

Unit size	Nominal capacity	Outdoor air temp.	Indoor air temperature													
			14.OWB		16.OWB		18.OWB		19.OWB		20.OWB		22.OWB		24.OWB	
			20.ODB		23.ODB		26.ODB		27.ODB		28.ODB		30.ODB		32.ODB	
			°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC
20	2.2	10.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.9	2.0
		12.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.9	2.0
		14.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.8	1.9
		16.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.8	1.9
		18.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.7	1.9
		20.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.7	1.9
		21.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.7	1.9
		23.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.6	1.9
		25.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.6	1.8	2.6	1.9
		27.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.5	1.8	2.6	1.9
		29.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.5	1.8	2.5	1.8
		31.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.4	1.7	2.5	1.8
		33.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.4	1.7	2.5	1.8
		35.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.4	1.7	2.4	1.8
37.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.3	1.9	2.3	1.7	2.4	1.8		
39.0	1.5	1.4	1.8	1.6	2.1	1.8	2.2	1.9	2.2	1.9	2.3	1.6	2.3	1.8		
25	2.8	10.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.7	2.3
		12.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.6	2.2
		14.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.6	2.2
		16.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.5	2.2
		18.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.5	2.2
		20.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.4	2.2
		21.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.4	2.2	3.4	2.2
		23.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.3	2.2	3.4	2.1
		25.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.3	2.2	3.3	2.1
		27.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.2	2.2	3.3	2.1
		29.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.2	2.1	3.2	2.1
		31.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.1	2.1	3.2	2.1
		33.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.1	2.1	3.1	2.1
		35.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	3.0	2.2	3.0	2.1	3.1	2.0
37.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	2.9	2.2	3.0	2.0	3.0	2.0		
39.0	1.9	1.6	2.3	1.9	2.6	2.1	2.8	2.1	2.9	2.1	2.9	2.0	3.0	2.0		
32	3.6	10.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.7	2.9
		12.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.7	2.9
		14.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.6	2.8
		16.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.6	2.8
		18.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.5	2.8
		20.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.4	2.8
		21.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.3	2.8	4.4	2.7
		23.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.2	2.8	4.3	2.7
		25.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.2	2.7	4.3	2.7
		27.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.1	2.7	4.2	2.7
		29.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.1	2.7	4.2	2.6
		31.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	4.0	2.6	4.1	2.6
		33.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	3.9	2.6	4.0	2.6
		35.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.8	2.7	3.9	2.6	4.0	2.5
37.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.7	2.6	3.8	2.6	3.9	2.5		
39.0	2.4	2.0	2.9	2.3	3.4	2.4	3.6	2.6	3.7	2.6	3.8	2.5	3.8	2.5		

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# 4 Capacity tables

## 4 - 2 Heating capacity tables

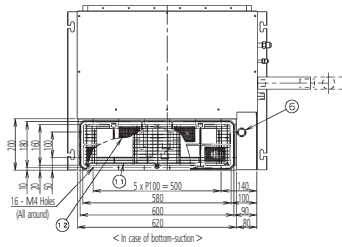
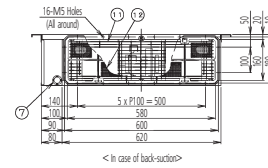
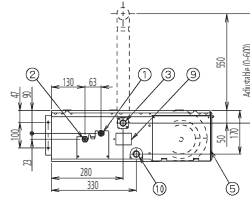
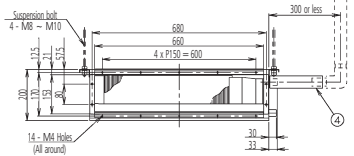
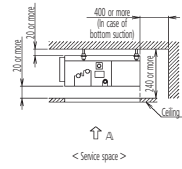
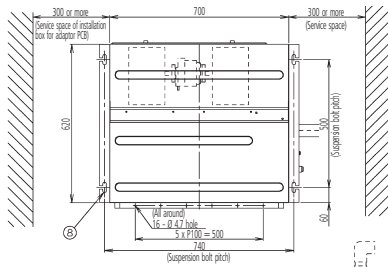
FXDQ20,25,32P									
Unit Size	Nominal capacity	Outdoor air temperature		Indoor air temperature °CDB					
				16.0	18.0	20.0	21.0	22.0	24.0
		°CDB	°CWB	kW	kW	kW	kW	kW	kW
20	2.5	-19.8	-20.0	1.5	1.5	1.5	1.5	1.5	1.5
		-18.8	-19.0	1.5	1.5	1.5	1.5	1.5	1.5
		-16.7	-17.0	1.6	1.6	1.6	1.6	1.6	1.6
		-14.7	-15.0	1.7	1.7	1.7	1.7	1.7	1.7
		-12.6	-13.0	1.8	1.8	1.8	1.8	1.8	1.8
		-10.5	-11.0	1.9	1.9	1.9	1.9	1.9	1.9
		-9.5	-10.0	1.9	1.9	1.9	1.9	1.9	1.9
		-8.5	-9.1	2.0	2.0	1.9	1.9	1.9	1.9
		-7.0	-7.6	2.0	2.0	2.0	2.0	2.0	2.0
		-5.0	-5.6	2.1	2.1	2.1	2.1	2.1	2.1
		-3.0	-3.7	2.2	2.2	2.2	2.2	2.2	2.2
		0.0	-0.7	2.3	2.3	2.3	2.3	2.3	2.2
		3.0	2.2	2.5	2.5	2.4	2.4	2.3	2.2
		5.0	4.1	2.5	2.5	2.5	2.4	2.3	2.2
		7.0	6.0	2.6	2.6	2.5	2.4	2.3	2.2
		9.0	7.9	2.7	2.7	2.5	2.4	2.3	2.2
11.0	9.8	2.8	2.7	2.5	2.4	2.3	2.2		
13.0	11.8	2.8	2.7	2.5	2.4	2.3	2.2		
15.0	13.7	2.8	2.7	2.5	2.4	2.3	2.2		
25	3.2	-19.8	-20.0	1.9	1.9	1.9	1.9	1.9	1.9
		-18.8	-19.0	1.9	1.9	1.9	1.9	1.9	1.9
		-16.7	-17.0	2.1	2.1	2.0	2.0	2.0	2.0
		-14.7	-15.0	2.2	2.2	2.2	2.2	2.2	2.1
		-12.6	-13.0	2.3	2.3	2.3	2.3	2.3	2.3
		-10.5	-11.0	2.4	2.4	2.4	2.4	2.4	2.4
		-9.5	-10.0	2.5	2.4	2.4	2.4	2.4	2.4
		-8.5	-9.1	2.5	2.5	2.5	2.5	2.5	2.5
		-7.0	-7.6	2.6	2.6	2.6	2.6	2.6	2.6
		-5.0	-5.6	2.7	2.7	2.7	2.7	2.7	2.7
		-3.0	-3.7	2.8	2.8	2.8	2.8	2.8	2.8
		0.0	-0.7	3.0	3.0	3.0	3.0	3.0	2.8
		3.0	2.2	3.1	3.1	3.1	3.1	3.0	2.8
		5.0	4.1	3.3	3.2	3.2	3.1	3.0	2.8
		7.0	6.0	3.4	3.4	3.2	3.1	3.0	2.8
		9.0	7.9	3.5	3.4	3.2	3.1	3.0	2.8
11.0	9.8	3.6	3.4	3.2	3.1	3.0	2.8		
13.0	11.8	3.6	3.4	3.2	3.1	3.0	2.8		
15.0	13.7	3.6	3.4	3.2	3.1	3.0	2.8		
32	4.0	-19.8	-20.0	2.4	2.4	2.3	2.3	2.3	2.3
		-18.8	-19.0	2.4	2.4	2.4	2.4	2.4	2.4
		-16.7	-17.0	2.6	2.6	2.6	2.6	2.6	2.5
		-14.7	-15.0	2.7	2.7	2.7	2.7	2.7	2.7
		-12.6	-13.0	2.9	2.8	2.8	2.8	2.8	2.8
		-10.5	-11.0	3.0	3.0	3.0	3.0	3.0	3.0
		-9.5	-10.0	3.1	3.1	3.1	3.1	3.0	3.0
		-8.5	-9.1	3.1	3.1	3.1	3.1	3.1	3.1
		-7.0	-7.6	3.2	3.2	3.2	3.2	3.2	3.2
		-5.0	-5.6	3.4	3.4	3.4	3.4	3.4	3.4
		-3.0	-3.7	3.5	3.5	3.5	3.5	3.5	3.5
		0.0	-0.7	3.7	3.7	3.7	3.7	3.7	3.5
		3.0	2.2	3.9	3.9	3.9	3.9	3.7	3.5
		5.0	4.1	4.1	4.1	4.0	3.9	3.7	3.5
		7.0	6.0	4.2	4.2	4.0	3.9	3.7	3.5
		9.0	7.9	4.3	4.3	4.0	3.9	3.7	3.5
11.0	9.8	4.5	4.3	4.0	3.9	3.7	3.5		
13.0	11.8	4.5	4.3	4.0	3.9	3.7	3.5		
15.0	13.7	4.5	4.3	4.0	3.9	3.7	3.5		

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# 5 Dimensional drawing & centre of gravity

## 5 - 1 Dimensional drawing

FXDQ20,25,32PB



Nr	Part name	Description
1	Liquid pipe connection	ø 6.4 (Flare connection)
2	Gas pipe connection	ø 12.7 (Flare connection)
3	Drain pipe connection	VP20 (O.D. ø 26 / I.D. ø 20)
4	Drain hose (Accessory)	I.D. ø 25 (Outlet)
5	Control box	
6	Transmission wiring connection	
7	Power supply connection	
8	Suspension bracket	
9	Inspection door	
10	Socket for drain	
11	Protection for drain	
12	Air filter (Accessory)	

### NOTES

- In case of back-suction, mount chamber cover to bottom side of the unit.  
In case of bottom-suction, mount chamber cover to back side of the unit.
- Location of unit's name plate: control box cover.
- Mount the air filter at the suction side.  
(Select its colorimethod (gravity method) 50% or more).  
It can not be equipped with air filter (accessory) when connecting duct to suction side.

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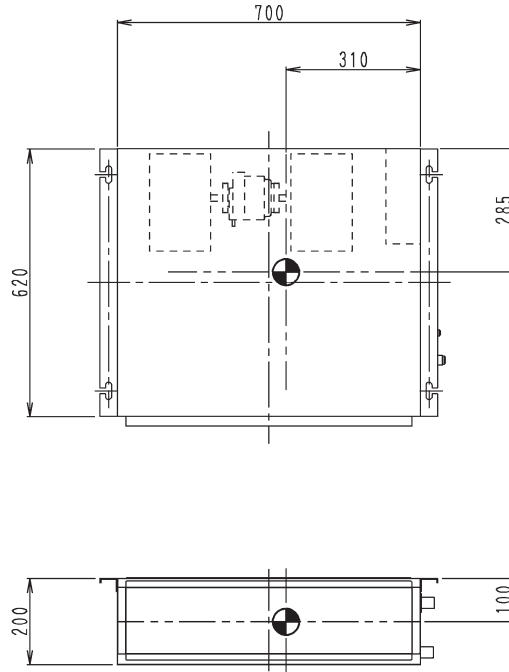
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## 5 Dimensional drawing & centre of gravity

### 5 - 2 Centre of gravity

FXDQ20,25,32PB



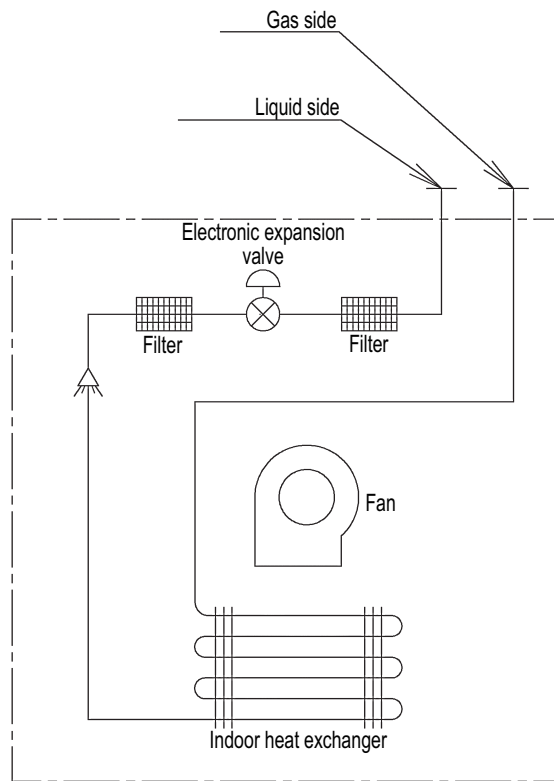
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# 6 Piping diagram

FXDQ20,25,32PB  
FXDQ40,50,63NB

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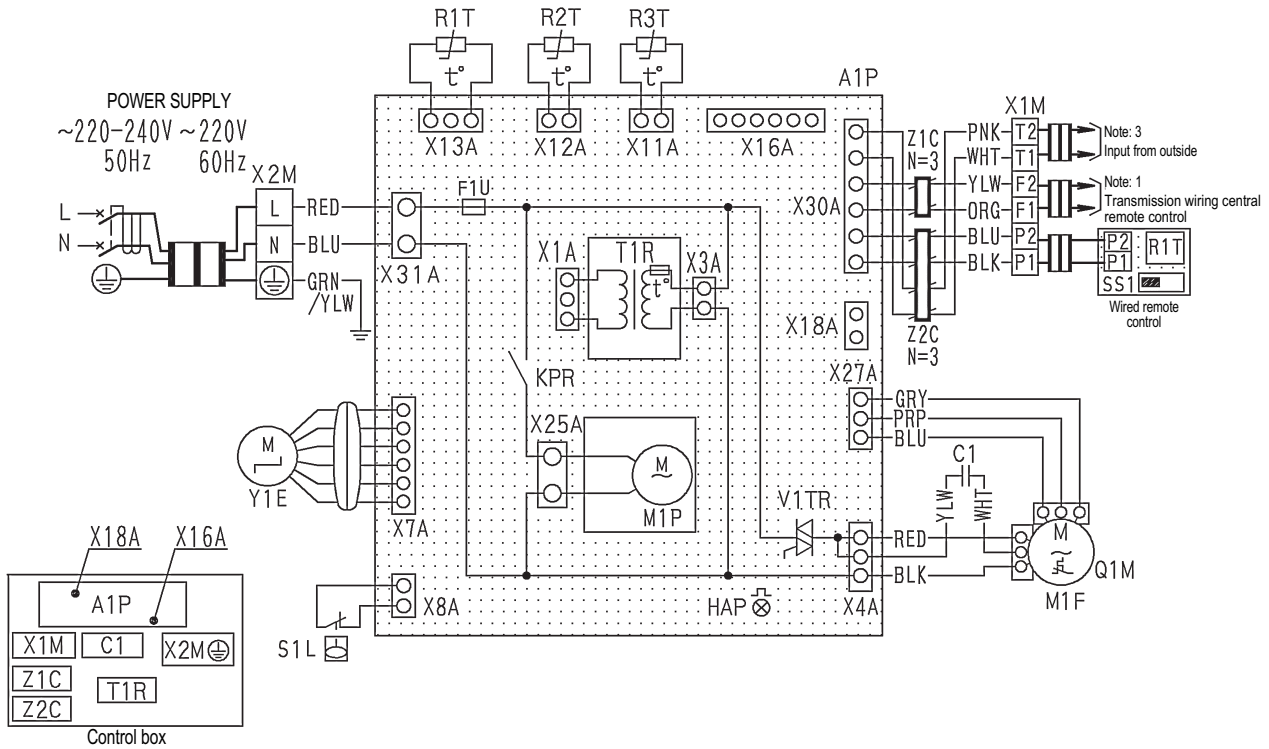


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# 7 Wiring diagram

## 7 - 1 Wiring diagram

FXDQ20,25,32PB  
FXDQ40,50,63NB



A1P	Printed circuit board	R1T	Thermistor (air)	Z1C-Z2C	Noise filter (ferrite core)
C1	Capacitor (M1F)	R2T	Thermistor (coil - 1)	Wired remote control	
F1U	Fuse (F5A, 250V)	R3T	Thermistor (coil - 2)	R1T	Thermistor (air)
HAP	Light emitting diode (service monitor-green)	S1L	Float switch	SS1	Selector switch (main/sub)
KPR	Magnetic relay (M1P)	T1R	Transformer (220V/22V)	Connector for optional parts	
M1F	Motor (indoor fan)	V1TR	Phase control circuit	X16A	Connector (adapter for wiring)
M1P	Motor (drain pump)	X1M	Terminal block	X18A	Connector (wiring adapter for electrical appendices)
Q1M	Thermal protector (M1F embedded)	X2M	Terminal block		
		Y1E	Electronic expansion valve		

- : Terminal  
 : Connector  
 : Field wiring
- Colors: BLK: Black      ORG: Orange      WHT: White  
           BLU: Blue        PNK: Pink        YLW: Yellow  
           GRY: Gray        PRP: Purple  
           GRN: Green        RED: Red

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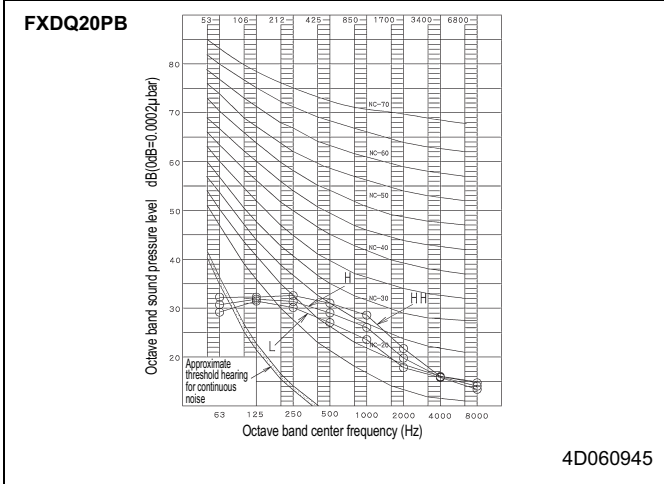
### NOTES

- In case of using central remote control, connect it to the unit in accordance with the attached installation manual.
- Remote control model varies according to the combination system, confirm engineering materials and catalogs, etc. before connecting.
- When connecting the input wires from outside, forced off or on/off control operation can be selected by remote control. In details, refer to the installation manual attached to the unit.

# 8 Sound data

## 8 - 1 Sound pressure spectrum

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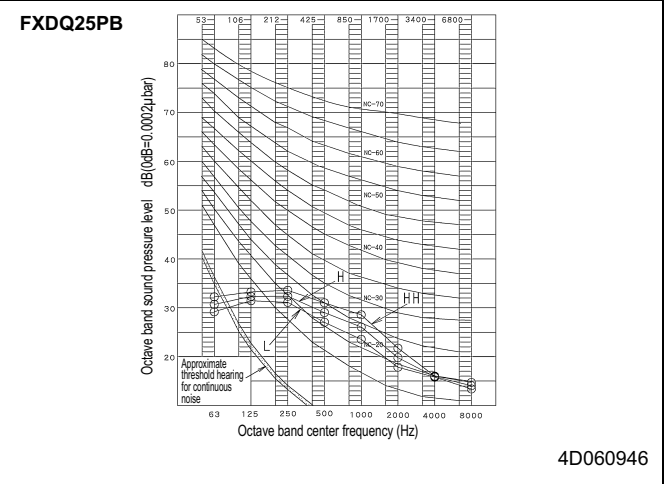


**NOTE**

- Over All (dB):  
(B, G, N is already rectified)
- Operating conditions:
  - Power source: 220~240V 50Hz / 220V 60Hz
  - Cooling: Return air temperature: 27°C DB, 19°C WB  
Outdoor temperature: 35°C DB, 24 °C WD
  - Heating: Return air temperature: 20°C DB, 15°C WB  
Outdoor temperature: 7°C DB, 6°C WB
- Measuring place: Anechoic chamber
- Location of microphone

- The operation condition is external static pressure 10 Pa. Operation noise differ with operation and ambient conditions.

Scale	Air flow rate		
	HH	H	L
A	33.0	31.0	29.0
C	39.0	37.5	36.0

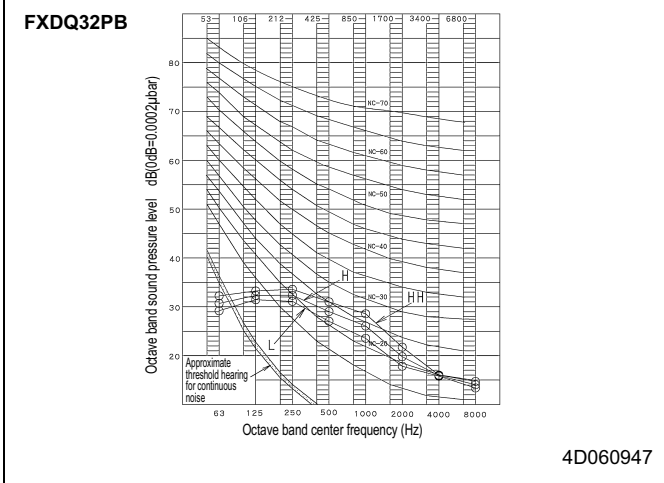


**NOTE**

- Over All (dB):  
(B, G, N is already rectified)
- Operating conditions:
  - Power source: 220~240V 50Hz / 220V 60Hz
  - Cooling: Return air temperature: 27°C DB, 19°C WB  
Outdoor temperature: 35°C DB, 24 °C WD
  - Heating: Return air temperature: 20°C DB, 15°C WB  
Outdoor temperature: 7°C DB, 6°C WB
- Measuring place: Anechoic chamber
- Location of microphone

- The operation condition is external static pressure 10 Pa. Operation noise differ with operation and ambient conditions.

Scale	Air flow rate		
	HH	H	L
A	33.0	31.0	29.0
C	39.0	37.5	36.0



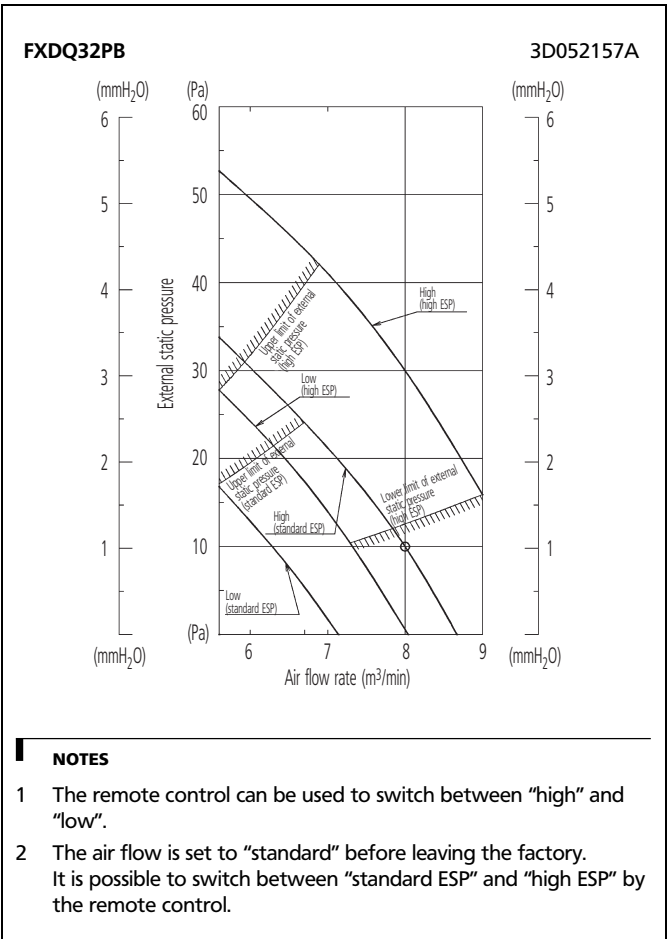
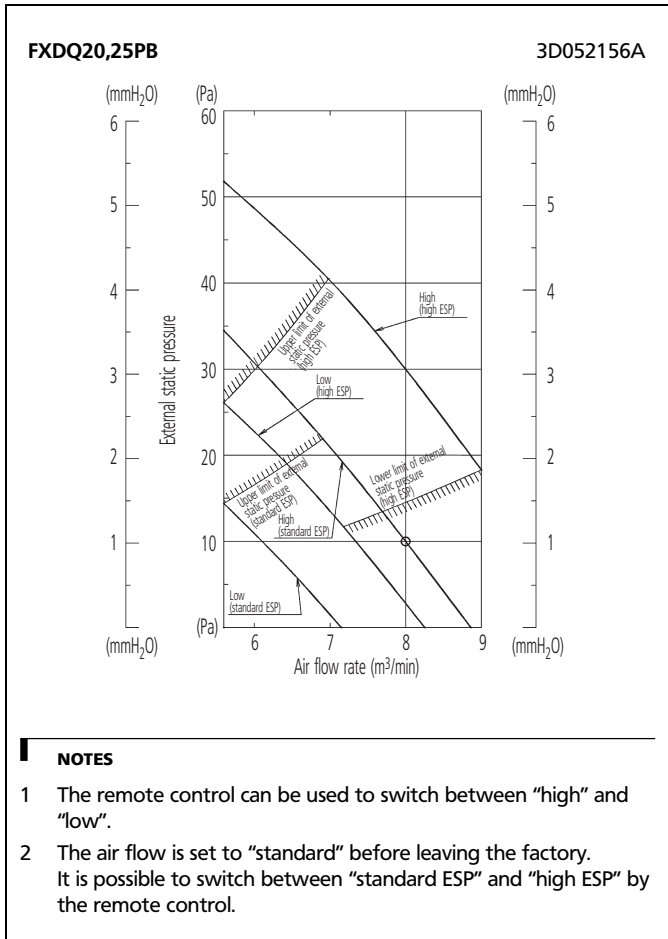
**NOTE**

- Over All (dB):  
(B, G, N is already rectified)
- Operating conditions:
  - Power source: 220~240V 50Hz / 220V 60Hz
  - Cooling: Return air temperature: 27°C DB, 19°C WB  
Outdoor temperature: 35°C DB, 24 °C WD
  - Heating: Return air temperature: 20°C DB, 15°C WB  
Outdoor temperature: 7°C DB, 6°C WB
- Measuring place: Anechoic chamber
- Location of microphone

- The operation condition is external static pressure 15 Pa. Operation noise differ with operation and ambient conditions.

Scale	Air flow rate		
	HH	H	L
A	33.0	31.0	29.0
C	39.0	37.5	36.0

# 9 Fan characteristics



## 9 Fan characteristics

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