

Компания Полель - официальный  
дистрибьютор **SANYO**

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Кондиционеры  
Сплит-системы  
Полупромышленные кондиционеры  
Мультizonальные **VRF** системы кондиционирования  
Чиллеры

# TECHNICAL DATA

# SANYO

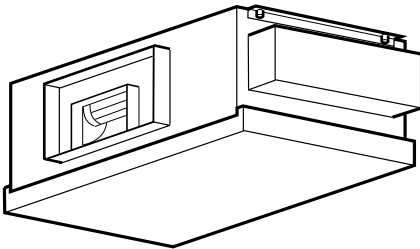
FILE NO.

**SPW-D253GH56 / SPW-C253GH5**  
**SPW-D253GH56 / SPW-C253GH8**  
**SPW-D363GH56 / SPW-C363GH8**  
**SPW-D483GH56 / SPW-C483GH8**

## SPLIT SYSTEM AIR CONDITIONER

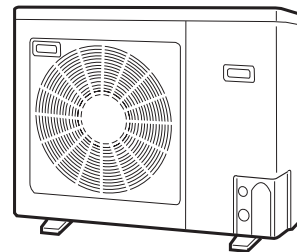
INDOOR MODEL No.	PRODUCT CODE No.	OUTDOOR MODEL No.	PRODUCT CODE No.
SPW-D253GH56	854 011 56	SPW-C253GH5	854 012 18
SPW-D253GH56	854 011 56	SPW-C253GH8	854 012 19
SPW-D363GH56	854 011 57	SPW-C363GH8	854 012 20
SPW-D483GH56	854 011 58	SPW-C483GH8	854 012 21

Indoor Unit

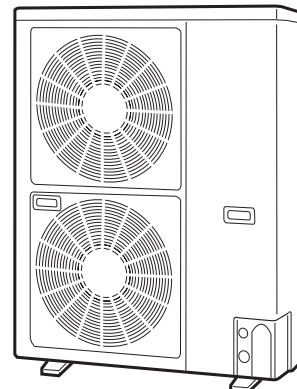


SPW-D253GH56  
SPW-D363GH56  
SPW-D483GH56

Outdoor Unit



SPW-C253GH5  
SPW-C253GH8



SPW-C363GH8  
SPW-C483GH8

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## 1. OPERATING RANGE

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	Temperature	Indoor air intake temp.	Outdoor air intake temp.
Cooling	Maximum	35°C DB / 25°C WB	45°C DB
	Minimum	17°C DB / 14°C WB	- 5°C DB
Heating	Maximum	27°C DB / — WB	24°C DB / 18°C WB
	Minimum	16°C DB / — WB	-15°C DB / — WB

## 2. SPECIFICATIONS 2 – (1)

### (1) Unit Specifications

MODEL No.		Indoor Unit		SPW-D253GH56					
		Outdoor Unit		SPW-C253GH5					
<b>POWER SOURCE</b>				<b>220 - 230 - 240 V / 1 Phase / 50 Hz</b>					
<b>PERFORMANCE</b>				Cooling		Heating			
Capacity		kW		7.3		8			
		BTU / h		25,000		27,000			
Air circulation (Hi/Me/Lo)		m <sup>3</sup> / h		1,380/1,320/1,260					
Moisture removal (High)		Liters/h		3.1		-			
External static pressure(High)		mmAq(Pa)		19(186):at shipment					
<b>ELECTRICAL RATINGS</b>									
Voltage rating		V		220	230	240	220	230	240
Available voltage range		V		198 - 264			198 - 264		
Running amperes*		A		16.6	16.8	16.9	16.7	16.8	17
Max. running amperes**		A		18.7	18.7	18.7	18	17.9	17.8
Power input		kW		3.5	3.56	3.63	3.52	3.58	3.65
Power factor		%		95.8	92.1	89.5	95.8	92.7	89.5
C.O.P		W / W		2.09	2.05	2.01	2.27	2.23	2.19
Max. starting amperes		A		70	73	76	70	73	76
<b>FEATURES</b>									
Controls / Thermostat control				Microprocessor / I.C. thermostat					
Timer				ON/OFF 72-hours					
Fan speeds Indoor/Outdoor				3 and Automatic control/ 2 (Auto)					
Airflow direction (Indoor)				-					
Air filter				Field supply					
Remote controller				Option (Wired:RCS-SH80TG)					
Refrigerant control				Electronic Refrigerant Control Valve					
Drain pump (drain connection)				No (25A,OD32mm)					
Compressor				Rotary					
Operation sound		Indoor - Hi/Me/Lo		44 / 43 / 42					
		Outdoor - Hi		52					
<b>REFRIGERANT TUBING</b>									
Limit of tubing length		m (ft.)		50 (164)					
Limit of tubing length at shipment		m (ft.)		30 (98)					
Limit of elevation difference between the two units		m (ft.)		Outdoor unit is higher than indoor unit: 50 (164) Outdoor unit is lower than indoor unit: 30 (98)					
Refrigerant tube outer diameter		Narrow tube		6.35 (1 / 4)					
		Wide tube		15.88 (5 / 8)					
Refrigerant amount at shipment		kg		R22 - 3.0					
<b>DIMENSIONS &amp; WEIGHT</b>				Indoor unit		Outdoor unit			
Unit dimensions		Height		420 (16-17/32)		735 (28-30/32)			
		Width		1,065 (41-30/32)		940 (37)			
		Depth		620 (24-13/32)		340 (13-12/32)			
Package dimensions		Height		513 (20-6/32)		826 (32-17/32)			
		Width		1,148 (45-6/32)		1,016 (40)			
		Depth		713 (28-2/32)		416 (16-12/32)			
Net weight		kg (lb)		47 (104)		71 (157)			
Shipping weight		kg (lb)		61 (134)		77 (170)			
Shipping volume		m <sup>3</sup> (Cu. ft.)		0.42 (14.8)		0.349 (12.3)			

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Cooling :

Rating conditions(\*) : Indoor air temperature 27 °C DB / 19 °C WB, Outdoor air temperature 35 °C DB

Full load conditions(\*\*) Indoor air temperature 35 °C DB / 25 °C WB, Outdoor air temperature 45 °C DB

Heating :

Rating conditions(\*) : Indoor air temperature 20 °C DB, Outdoor air temperature 7 °C DB / 6 °C DB

Full load conditions(\*\*) Indoor air temperature 24 °C DB, Outdoor air temperature 24 °C DB / 15.5 °C WB

## 2 . SPECIFICATIONS 2 – (1)

### (1) Unit Specifications

<b>MODEL No.</b>	Indoor Unit	<b>SPW-D253GH56</b>					
	Outdoor Unit	<b>SPW-C253GH8</b>					
<b>POWER SOURCE</b>	<b>380 - 400 - 415 V / 3N / 50 Hz</b>						
<b>PERFORMANCE</b>	Cooling			Heating			
Capacity	kW	7.3			8		
	BTU / h	25,000			27,000		
Air circulation (Hi/Me/Lo)	m <sup>3</sup> / h	1,380/1,320/1,260					
Moisture removal (High)	Liters/h	3.1			-		
External static pressure(High)	mmAq(Pa)	19(186):at shipment					
<b>ELECTRICAL RATINGS</b>							
Voltage rating	V	380	400	415	380	400	415
Available voltage range	V	342 - 456			342 - 456		
Running amperes*	A	5.4	5.2	5.1	5.6	5.4	5.4
Max. running amperes**	A	5.9	5.7	5.6	6.4	6.1	5.9
Power input	kW	3.11	3.15	3.2	3.22	3.25	3.3
Power factor	%	87.5	87.4	87.3	87.4	86.9	85
C.O.P	W / W	2.35	2.32	2.28	2.48	2.46	2.42
Max. starting amperes	A	28	30	31	28	30	31
<b>FEATURES</b>							
Controls / Thermostat control	Microprocessor / I.C. thermostat						
Timer	ON/OFF 72-hours						
Fan speeds Indoor/Outdoor	3 and Automatic control/ 2 (Auto)						
Airflow direction (Indoor)	-						
Air filter	Field supply						
Remote controller	Option (Wired:RCS-SH80TG)						
Refrigerant control	Electronic Refrigerant Control Valve						
Drain pump (drain connection)	No (25A,OD32mm)						
Compressor	Rotary						
Operation sound	Indoor - Hi/Me/Lo	dB - A	44 / 43 / 42				
	Outdoor - Hi	dB - A	52				
<b>REFRIGERANT TUBING</b>							
Limit of tubing length	m (ft.)	50 (164)					
Limit of tubing length at shipment	m (ft.)	30 (98)					
Limit of elevation difference between the two units	m (ft.)	Outdoor unit is higher than indoor unit: 50 (164) Outdoor unit is lower than indoor unit: 30 (98)					
Refrigerant tube outer diameter	Narrow tube	mm (in)	6.35 (1 / 4)				
	Wide tube	mm (in)	15.88 (5 / 8)				
Refrigerant amount at shipment	R22 - 3.0						
<b>DIMENSIONS &amp; WEIGHT</b>							
Unit dimensions	Height	mm (in)	Indoor unit		Outdoor unit		
	Width	mm (in)	420 (16-17/32)		735 (28-30/32)		
	Depth	mm (in)	1,065 (41-30/32)		940 (37)		
Package dimensions	Height	mm (in)	620 (24-13/32)		340 (13-12/32)		
	Width	mm (in)	513 (20-6/32)		826 (32-17/32)		
	Depth	mm (in)	1,148 (45-6/32)		1,016 (40)		
Net weight	kg (lb)	713 (28-2/32)		416 (16-12/32)			
Shipping weight	kg (lb)	47 (104)		71 (157)			
Shipping volume	m <sup>3</sup> (Cu. ft.)	61 (134)		77 (170)			
		0.42 (14.8)		0.349 (12.3)			

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Cooling :

Rating conditions(\*) : Indoor air temperature 27 °C DB / 19 °C WB, Outdoor air temperature 35 °C DB

Full load conditions(\*\*) Indoor air temperature 35 °C DB / 25 °C WB, Outdoor air temperature 45 °C DB

Heating :

Rating conditions(\*) : Indoor air temperature 20 °C DB, Outdoor air temperature 7 °C DB / 6 °C DB

Full load conditions(\*\*) Indoor air temperature 24 °C DB, Outdoor air temperature 24 °C DB / 15.5 °C WB

## 2 . SPECIFICATIONS 2 – (1)

### (1) Unit Specifications

MODEL No.		Indoor Unit	SPW-D363GH56						
		Outdoor Unit	SPW-C363GH8						
<b>POWER SOURCE</b>		<b>380 - 400 - 415 V / 3N / 50 Hz</b>							
<b>PERFORMANCE</b>		Cooling			Heating				
Capacity	kW	10.6			11.4				
	BTU / h	36,000			39,000				
Air circulation (Hi/Me/Lo)	m <sup>3</sup> / h	1,800/1,680/1,500							
Moisture removal (High)	Liters/h	4.5			-				
External static pressure(High)	mmAq(Pa)	18(176):at shipment							
<b>ELECTRICAL RATINGS</b>									
Voltage rating	V	380	400	415	380	400	415		
Available voltage range	V	342 - 456			342 - 456				
Running amperes*	A	5.8	5.7	5.6	5.9	5.7	5.6		
Max. running amperes**	A	6.8	6.7	6.5	6.6	6.5	6.5		
Power input	kW	3.4	3.44	3.47	3.5	3.55	3.6		
Power factor	%	89.1	87.1	86.2	90.1	89.9	89.4		
C.O.P	W / W	3.12	3.08	3.05	3.26	3.21	3.17		
Max. starting amperes	A	32	34	35	32	34	35		
<b>FEATURES</b>									
Controls / Thermostat control		Microprocessor / I.C. thermostat							
Timer		ON/OFF 72-hours							
Fan speeds Indoor/Outdoor		3 and Automatic control/ 2 (Auto)							
Airflow direction (Indoor)		-							
Air filter		Field supply							
Remote controller		Option (Wired:RCS-SH80TG)							
Refrigerant control		Electronic Refrigerant Control Valve							
Drain pump (drain connection)		No (25A,OD32mm)							
Compressor		Rotary							
Operation sound	Indoor - Hi/Me/Lo	dB - A			45 / 44 / 42				
	Outdoor - Hi	dB - A			53				
<b>REFRIGERANT TUBING</b>									
Limit of tubing length	m (ft.)	50 (164)							
Limit of tubing length at shipment	m (ft.)	30 (98)							
Limit of elevation difference between the two units	m (ft.)	Outdoor unit is higher than indoor unit: 50 (164) Outdoor unit is lower than indoor unit: 30 (98)							
Refrigerant tube outer diameter	Narrow tube	mm (in)	9.52 ( 3 / 8 )						
	Wide tube	mm (in)	19.05 ( 3 / 4 )						
Refrigerant amount at shipment		kg	R22 - 3.5						
<b>DIMENSIONS &amp; WEIGHT</b>		Indoor unit			Outdoor unit				
Unit dimensions	Height	mm (in)	420 (16-17/32)			1,235 (48-20/32)			
	Width	mm (in)	1,065 (41-30/32)			940 (37)			
	Depth	mm (in)	620 (24-13/32)			340 (13-12/32)			
Package dimensions	Height	mm (in)	513 (20-6/32)			1,326 (52-7/32)			
	Width	mm (in)	1,148 (45-6/32)			1,016 (40)			
	Depth	mm (in)	713 (28-2/32)			416 (16-12/32)			
Net weight		kg (lb)	50 (110)			94 (207)			
Shipping weight		kg (lb)	64 (141)			101 (223)			
Shipping volume		m <sup>3</sup> (Cu. ft.)	0.42 (14.8)			0.56 (19.8)			

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Cooling :

Rating conditions(\*) : Indoor air temperature 27 °C DB / 19 °C WB, Outdoor air temperature 35 °C DB

Full load conditions(\*\*) Indoor air temperature 35 °C DB / 25 °C WB, Outdoor air temperature 45 °C DB

Heating :

Rating conditions(\*) : Indoor air temperature 20 °C DB, Outdoor air temperature 7 °C DB / 6 °C DB

Full load conditions(\*\*) Indoor air temperature 24 °C DB, Outdoor air temperature 24 °C DB / 15.5 °C WB

## 2 . SPECIFICATIONS 2 – (1)

### (1) Unit Specifications

MODEL No.		Indoor Unit	SPW-D483GH56						
		Outdoor Unit	SPW-C483GH8						
<b>POWER SOURCE</b>		<b>380 - 400 - 415 V / 3N / 50 Hz</b>							
<b>PERFORMANCE</b>		Cooling			Heating				
Capacity	kW	14			16				
	BTU / h	47,800			54,600				
Air circulation (Hi/Me/Lo)	m3 / h	2,160/2,100/1,980							
Moisture removal (High)	Liters/h	6.6			-				
External static pressure(High)	mmAq(Pa)	17(167):at shipment							
<b>ELECTRICAL RATINGS</b>									
Voltage rating	V	380	400	415	380	400	415		
Available voltage range	V	342 - 456			342 - 456				
Running amperes*	A	9.1	9.2	9.4	9.6	9.6	9.9		
Max. running amperes**	A	9.7	9.7	9.9	10.4	10.1	9.8		
Power input	kW	5.25	5.5	5.63	5.62	5.81	5.93		
Power factor	%	87.7	86.3	83.3	88.9	87.4	83.3		
C.O.P	W / W	2.67	2.55	2.49	2.85	2.75	2.7		
Max. starting amperes	A	73	75	77	73	75	77		
<b>FEATURES</b>									
Controls / Thermostat control		Microprocessor / I.C. thermostat							
Timer		ON/OFF 72-hours							
Fan speeds Indoor/Outdoor		3 and Automatic control/ 2 (Auto)							
Airflow direction (Indoor)		-							
Air filter		Field supply							
Remote controller		Option (Wired:RCS-SH80TG)							
Refrigerant control		Electronic Refrigerant Control Valve							
Drain pump (drain connection)		No (25A,OD32mm)							
Compressor		Scroll							
Operation sound	Indoor - Hi/Me/Lo	dB - A			47 / 46 / 44				
	Outdoor - Hi	dB - A			55				
<b>REFRIGERANT TUBING</b>									
Limit of tubing length	m (ft.)	50 (164)							
Limit of tubing length at shipment	m (ft.)	30 (98)							
Limit of elevation difference between the two units	m (ft.)	Outdoor unit is higher than indoor unit: 50 (164) Outdoor unit is lower than indoor unit: 30 (98)							
Refrigerant tube outer diameter	Narrow tube	mm (in)			9.52 ( 3 / 8 )				
	Wide tube	mm (in)			19.05 ( 3 / 4 )				
Refrigerant amount at shipment	kg	R22 - 4.5							
<b>DIMENSIONS &amp; WEIGHT</b>		Indoor unit			Outdoor unit				
Unit dimensions	Height	mm (in)	450 (17-23/32)			1,235 (48-20/32)			
	Width	mm (in)	1,065 (41-30/32)			940 (37)			
	Depth	mm (in)	620 (24-13/32)			340 (13-12/32)			
Package dimensions	Height	mm (in)	513 (20-6/32)			1,326 (52-7/32)			
	Width	mm (in)	1,148 (45-6/32)			1,016 (40)			
	Depth	mm (in)	713 (28-2/32)			416 (16-12/32)			
Net weight	kg (lb)	54 (119)			108 (238)				
Shipping weight	kg (lb)	69 (152)			115 (254)				
Shipping volume	m <sup>3</sup> (Cu. ft.)	0.42 (14.8)			0.56 (19.8)				

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Cooling :

Rating conditions(\*) : Indoor air temperature 27 °C DB / 19 °C WB, Outdoor air temperature 35 °C DB

Full load conditions(\*\*) Indoor air temperature 35 °C DB / 25 °C WB, Outdoor air temperature 45 °C DB

Heating :

Rating conditions(\*) : Indoor air temperature 20 °C DB, Outdoor air temperature 7 °C DB / 6 °C DB

Full load conditions(\*\*) Indoor air temperature 24 °C DB, Outdoor air temperature 24 °C DB / 15.5 °C WB

## 2. SPECIFICATIONS 2 – (2) – (A)

### (2) Major Component Specifications

#### (A) Indoor Unit

<b>MODEL No.</b>		SPW-D253GH56	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
<b>Remote Controller (Option)</b>		RCS-SH80TG (Microprocessor)	
<b>Controller P.C.B. Ass'y</b>		CR-X253GH (Microprocessor)	
<b>Fan (Number...diameter)</b>	mm	Centrifugal (1 ... ø 220)	
<b>Fan Motor</b>			
Model...Nominal output	W	KFC4X-201B5P ... 200 W	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
No. of pole...r.p.m. (230 V, High)	rpm.	4 ... 1,004	
Coil resistance (Ambient temperature 20 °C)	Ω	BRN - WHT : 13.75 , ORG - YEL : 2.21 WHT - VLT : 4.47 , YEL - BLK : 10.33 VLT - ORG : 1.20 , BLK - PNK : 12.90	
<b>Safety device</b>			
Operating temperature	Open °C	130 ± 8 °C	
	Close °C	79 ± 15 °C	
Run capacitor	VAC, μF	440 V, 5.0 μF	
<b>Electronic refrigerant control valve</b>			
Solenoid control model		DKV-MOZS550E0	
Coil resistance (at 20 °C)	Ω	ORG - GRY : 46 , YEL - GRY : 46 RED - GRY : 46 , BLK - GRY : 46	
Solenoid control valve model		IKV-24D12	
<b>Heat exchanger</b>			
Coil		Aluminum plate fin / Copper tube	
Rows...fin pitch	mm	3 ... 2.0	
Face area	m <sup>2</sup>	0.233	

## 2. SPECIFICATIONS 2 – (2) – (A)

### (A) Indoor Unit

<b>MODEL No.</b>		SPW-D363GH56	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
<b>Remote Controller (Option)</b>		RCS-SH80TG (Microprocessor)	
<b>Controller P.C.B. Ass'y</b>		CR-X253GH (Microprocessor)	
<b>Fan (Number...diameter)</b>	mm	Centrifugal (1 ... ø 220)	
<b>Fan Motor</b>			
Model...Nominal output	W	KFC4X-201B5P...200 W	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
No. of pole...r.p.m. (230 V, High)	rpm.	4 ... 1,134	
Coil resistance (Ambient temperature 20 °C)	Ω	BRN – WHT : 13.75 , ORG – YEL : 2.21 WHT – VLT : 4.47 , YEL – BLK : 10.33 VLT – ORG : 1.20 , BLK – PNK : 12.90	
<b>Safety device</b>			
Operating temperature	Open °C	130 ± 8 °C	
	Close °C	79 ± 15 °C	
Run capacitor	VAC, μF	440 V, 7.0 μF	
<b>Electronic refrigerant control valve</b>			
Solenoid control model		EKV-MOZS559E0	
Coil resistance (at 20 °C)	Ω	ORG – GRY : 46 , YEL – GRY : 46 RED – GRY : 46 , BLK – GRY : 46	
Solenoid control valve model		HKV-30D16	
<b>Heat exchanger</b>			
Coil		Aluminum plate fin / Copper tube	
Rows...fin pitch	mm	4 ... 2.0	
Face area	m <sup>2</sup>	0.273	

## 2. SPECIFICATIONS 2 – (2) – (A)

### (A) Indoor Unit

<b>MODEL No.</b>		SPW-D483GH56	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
<b>Remote Controller (Option)</b>		RCS-SH80TG (Microprocessor)	
<b>Controller P.C.B. Ass'y</b>		CR-X253GH (Microprocessor)	
<b>Fan (Number...diameter)</b>	mm	Centrifugal (1 ... ø 250)	
<b>Fan Motor</b>			
Model...Nominal output	W	KFC4Q-401A5P ... 400 W	
<b>Source</b>		220 - 230 - 240 V / 1 phase / 50Hz	
No. of pole...r.p.m. (230 V, High)	rpm.	4 ... 1,077	
Coil resistance (Ambient temperature 20 °C)	Ω	BRN – WHT : 11.05 , ORG – YEL : 4.57 WHT – VLT : 1.80 , YEL – PNK : 7.70 VLT – ORG : 1.00	
<b>Safety device</b>			
Operating temperature	Open °C	130 ± 8 °C	
	Close °C	79 ± 15 °C	
Run capacitor	VAC, μF	440 V, 7 μF × 2	
<b>Electronic refrigerant control valve</b>			
Solenoid control model		EKV-MOZS559E0	
Coil resistance (at 20 °C)	Ω	ORG – GRY : 46 , YEL – GRY : 46 RED – GRY : 46 , BLK – GRY : 46	
Solenoid control valve model		HKV-30D16	
<b>Heat exchanger</b>			
Coil		Aluminum plate fin / Copper tube	
Rows...fin pitch	mm	4 ... 2.0	
Face area	m <sup>2</sup>	0.273	

## 2. SPECIFICATIONS 2 – (2) – (B)

### (B) Outdoor Unit

<b>Unit Model No.</b>		SPW-C253GH5	
<b>Source</b>		220 - 240 V / 1 phase / 50 Hz	
<b>Controller P.C.B. Ass'y</b>		CR-C253GH5 (Microprocessor)	
Control circuit fuse		250 V, 3.15 A	
<b>Compressor</b>		Rotary (Hermetic)	
Model...number		C-R221H5W	
Source		220 - 240 V / 1 phase / 50 Hz	
Nominal output	W	2200	
Compressor oil	cc	1500	
Coil resistance (Ambient temperature 25 °C)	Ω	C - R : 0.76 , R - S : 3.52 C - S : 2.76	
<b>Safety devices</b>		Internal type	
Overload relay models		Internal type	
Operating temperature	Open °C	160 ± 5	
	Close °C	87 ± 11	
Crank case heater		240 V 25 W	
<b>Refrigerant amount at shipment</b>	kg	R22 - 3.0	
<b>High pressure switch</b>		ACB - 1TB07	
Set pressure	OFF kg/cm <sup>2</sup>	30 <sup>+2.0</sup> / <sub>+0.5</sub>	
	ON kg/cm <sup>2</sup>	24 ± 2.0	
<b>Fan</b>		Propeller	
Number...diameter	mm	1 ... ø 460	
<b>Fan speeds</b>		2 (AUTO)	
<b>Fan motor</b>		KFC6T-91C5P	
Source		220 - 230 - 240 V / 1 phase / 50 Hz	
No. of pole...rpm (230 V, High)		6 ... 772	
Nominal output	W	70	
Coil resistance (Ambient temperature 20 °C)	Ω	WHT - BRN :127.3 , VLT - YEL : 15.0 WHT - VLT : 56.7 , YEL - PNK : 7.2	
<b>Safety device</b>		Internal type	
Operating temperature	Open °C	130 ± 8	
	Close °C	79 ± 15	
Run capacitor	VAC, μF	440 V, 6 μF	
<b>Heat exchange</b>		Aluminium plate fin, Copper tube	
Coil		Aluminium plate fin, Copper tube	
Rows...fin pitch	mm	2 ... 2.0	
Face area	m <sup>2</sup>	0.616	

## 2. SPECIFICATIONS 2 – (2) – (B)

### (B) Outdoor Unit

<b>Unit Model No.</b>		SPW-C253GH8	
<b>Source</b>		380 - 400 - 415 V / 3 phase / 50 Hz	
<b>Controller P.C.B. Ass'y</b>		CR-C253GH (Microprocessor)	
Control circuit fuse		250 V, 3.15 A	
<b>Compressor</b>		Rotary (Hermetic)	
Model...number		C-R224H8U	
Source		380 - 400 - 415 V / 3 phase / 50 Hz	
Nominal output	W	2400	
Compressor oil	cc	1350	
Coil resistance (Ambient temperature 25 °C)	Ω	T - R : 5.54 , R - S : 5.54 S - T : 5.54	
<b>Safety devices</b>			
Overload relay models		Internal type	
Operating temperature	Open °C	120 ± 5	
	Close °C	98 ± 11	
Crank case heater		240 V 25 W	
<b>Refrigerant amount at shipment</b>		kg	R22 - 3.0
<b>High pressure switch</b>		ACB-1TB07	
Set pressure	OFF kg/cm <sup>2</sup>	30 <sup>+2.0</sup> / <sub>+0.5</sub>	
	ON kg/cm <sup>2</sup>	24 ± 2.0	
<b>Fan</b>		Propeller	
Number...diameter	mm	1 ... ø 460	
<b>Fan speeds</b>		2 (AUTO)	
<b>Fan motor</b>			
Model		KFC6T-91C5P	
Source		220 - 230 - 240 V / 1 phase / 50 Hz	
No. of pole...rpm (230 V, High)		6 ... 772	
Nominal output	W	70	
Coil resistance (Ambient temperature 20 °C)	Ω	WHT - BRN :127.3 , VLT - YEL : 15.0 WHT - VLT : 56.7 , YEL - PNK : 7.2	
<b>Safety device</b>		Internal type	
Operating temperature	Open °C	130 ± 8	
	Close °C	79 ± 15	
Run capacitor	VAC, μF	440 V, 6 μF	
<b>Heat exchange</b>			
Coil		Aluminium plate fin / Copper tube	
Rows...fin pitch	mm	2 ... 2.0	
Face area	m <sup>2</sup>	0.616	

## 2. SPECIFICATIONS 2 – (2) – (B)

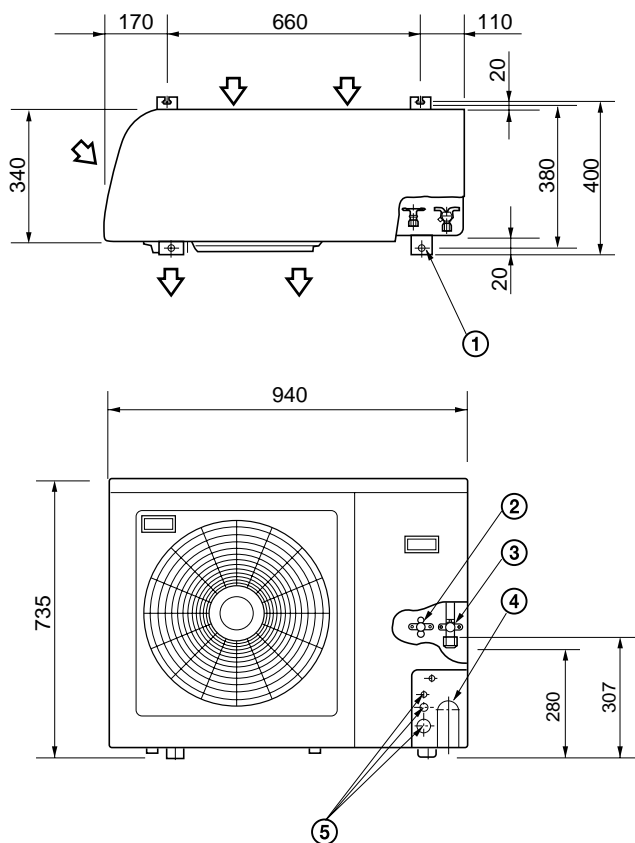
### (B) Outdoor Unit

<b>Unit Model No.</b>		SPW-C363GH8	SPW-C483GH8
<b>Source</b>		380 - 400 - 415 V / 3 phase / 50 Hz	
<b>Controller P.C.B. Ass'y</b>		CR-C253GH (Microprocessor)	
Control circuit fuse		250 V, 3.15 A	
<b>Compressor</b>		Rotary (Hermetic)	Scroll (Hermetic)
Model ..... number		C-R243H8V	ZR61KC-TFD-522
Source		380 - 400 - 415 V / 3 phase / 50 Hz	
Nominal output	W	2,400	3,700
Compressor oil	cc	1,350	2,130
Coil resistance (Ambient temperature 25°C)	Ω	T-R : 5.54 R-S : 5.54 S-T : 5.54	T1-T2 : 2.72 T2-T3 : 2.72 T3-T1 : 2.72
Crank case heater		240 V 25 W	–
<b>Safety devices</b>		Internal type	
Overload relay models		Internal type	
Operating temperature	Open °C	120 ± 5	130
	Close °C	98 ± 11	61
<b>Refrigerant amount at shipment</b>		kg	R-22 - 3.5 R-22 - 4.5
<b>High pressure switch</b>		ACB - 1TB07	
Set pressure	OFF kg/cm <sup>2</sup>	30 <sup>+2.0</sup> / <sub>+0.5</sub>	
	ON kg/cm <sup>2</sup>	24 ± 2.0	
<b>Fan</b>		Propeller	
Number...diameter	mm	2 ..... ø460	
<b>Fan motor</b>		KFC6T-91C5P x 2 ... 90 W x 2	
Source		220 - 230 - 240 V / 1 phase / 50 Hz	
No. of pole ..... rpm (230V, High)		6...772	
Coil resistance (Ambient temperature 20°C)	Ω	BRN – WHT : 127.3 , VLT – YEL : 15.0 WHT – VLT : 56.7 , YEL – PNK : 7.2	
<b>Safety device</b>		Internal type	
Operating temperature	Open °C	130 ± 8	
	Close °C	79 ± 15	
Run capacitor	VAC, μF	440 V, 6 μF x 2	
<b>Heat exchange</b>		Aluminium plate fin / Copper tube	
Coil		Aluminium plate fin / Copper tube	
Rows ..... fin pitch (mm)		2 ..... 2.0	
Face area	m <sup>2</sup>	1.08	



### 3. DIMENSIONAL DATA 3 – (2)

#### (2) Outdoor Unit : SPW-C253GH5 SPW-C253GH8



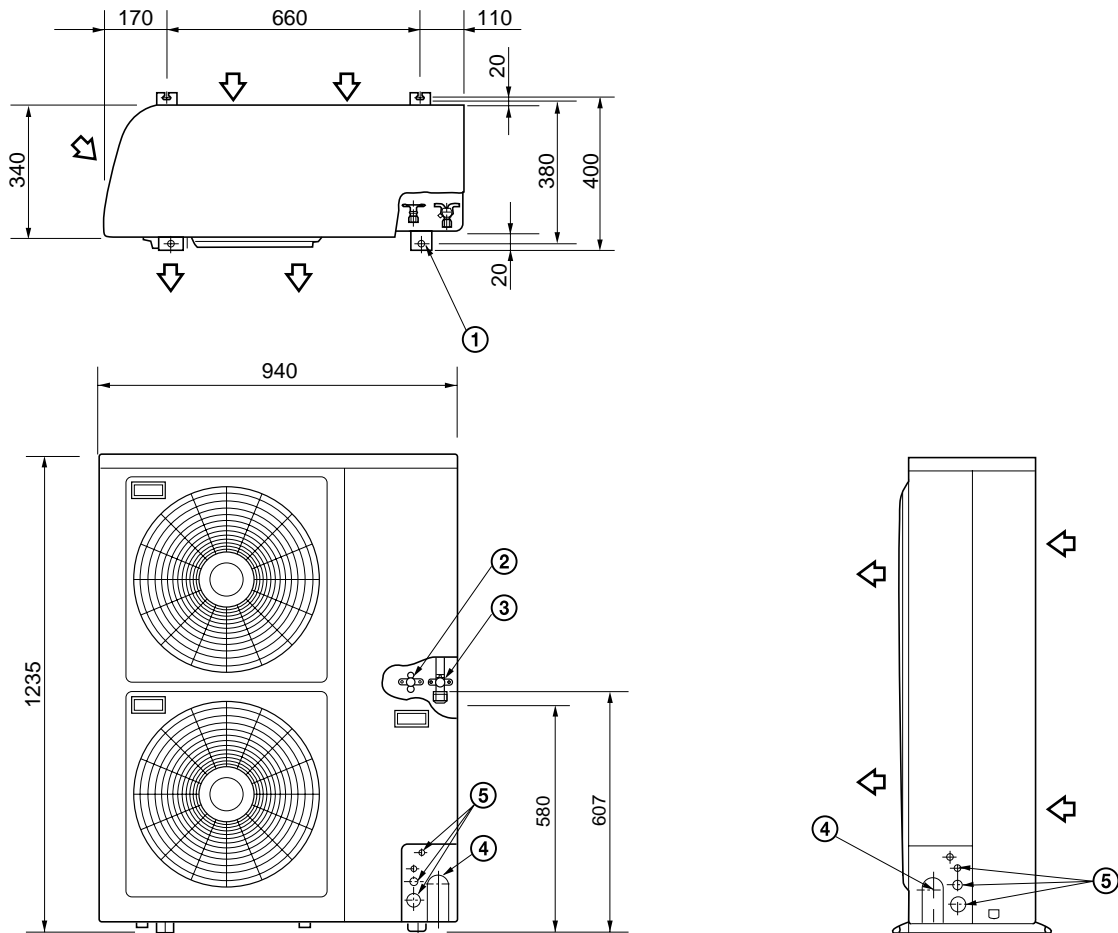
Dimension : mm

- ① Hole for anchor bolt (4- $\phi$ 13)
- ② Refrigerant tube joint (narrow tube)  
Flare connection 1/4 in (6.35 mm)
- ③ Refrigerant tube joint (wide tube)  
Flare connection 5/8 in (15.88 mm)
- ④ Refrigerant tubing inlet
- ⑤ Power supply inlet

0411\_C\_S

### 3. DIMENSIONAL DATA 3 – (2)

#### (2) Outdoor Unit : SPW-C363GH8 SPW-C483GH8



Dimension : mm

- ① Hole for anchor bolt (4- $\phi$ 13)
- ② Refrigerant tube joint (narrow tube)  
Flare connection 3/8 in (9.52 mm)
- ③ Refrigerant tube joint (wide tube)  
Flare connection 3/4 in (19.05 mm)
- ④ Refrigerant tubing inlet
- ⑤ Power supply inlet

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## 4. COOLING CAPACITY

Indoor Unit : SPW-D253GH56

Outdoor Unit : SPW-C253GH5

RATING CAPACITY : 7.3 kW      AIR FLOW RATE : 1380 CMH							
EVAPORATOR		CONDENSER					
ENT. TEMP. °C		AMBIENT TEMP. °C					
WB	DB		25	30	35	40	45
15		TC	7.37	7.03	6.67	6.26	5.81
		CI	2.43	2.59	2.78	2.86	2.95
	21	SHC	5	4.9	4.7	4.5	4.3
	23	SHC	5.8	5.6	5.4	5.2	5
	25	SHC	6.5	6.3	6.2	6	5.7
	27	SHC	7.2	7.03	6.67	6.26	5.81
	29	SHC	7.37	7.03	6.67	6.26	5.81
	31	SHC	7.37	7.03	6.67	6.26	5.81
17		TC	7.61	7.31	6.96	6.59	6.18
		CI	2.49	2.67	2.86	2.95	3.03
	21	SHC	4.1	4	3.8	3.7	3.5
	23	SHC	4.9	4.7	4.6	4.4	4.2
	25	SHC	5.6	5.5	5.3	5.1	5
	27	SHC	6.3	6.2	6	5.9	5.7
	29	SHC	7.1	6.9	6.8	6.59	6.18
	31	SHC	7.61	7.31	6.96	6.59	6.18
19		TC	7.88	7.6	#7.3	6.94	6.54
		CI	2.57	2.75	2.95	3.04	3.13
	21	SHC	3.2	3.1	3	2.9	2.7
	23	SHC	4	3.9	3.7	3.6	3.4
	25	SHC	4.7	4.6	4.5	4.3	4.2
	27	SHC	5.4	5.3	5.2	5.1	4.9
	29	SHC	6.2	6.1	5.9	5.8	5.6
	31	SHC	6.9	6.8	6.7	6.5	6.4
21		TC	8.14	7.85	7.56	7.21	6.86
		CI	2.64	2.83	3.03	3.13	3.22
	23	SHC	3.1	3	2.9	2.7	2.6
	25	SHC	3.8	3.7	3.6	3.5	3.3
	27	SHC	4.6	4.4	4.3	4.2	4.1
	29	SHC	5.3	5.2	5.1	4.9	4.8
		31	SHC	6	5.9	5.8	5.7
23		TC	8.42	8.17	7.88	7.59	7.24
		CI	2.71	2.9	3.11	3.21	3.21
	25	SHC	2.9	2.8	2.7	2.6	2.5
	27	SHC	3.7	3.6	3.5	3.4	3.3
	29	SHC	4.4	4.3	4.2	4.1	4
	31	SHC	5.1	5	4.9	4.8	4.7
25		TC	8.76	8.45	8.2	7.91	7.61
		CI	2.8	2.99	3.17	3.3	3.42
	27	SHC	2.8	2.7	2.6	2.5	2.4
	29	SHC	3.5	3.4	3.3	3.2	3.2
	31	SHC	4.3	4.2	4.1	4	3.9

TC : Total Cooling Capacity (kW)

SHC : Sensible Heat Capacity (kW)

CI : Compressor Input (kW)

Rating conditions (#MARK) : Outdoor Ambient Temperature 35°C DB  
Indoor Unit Entering Air Temperature 27°C DB / 19°C WB

## 4. COOLING CAPACITY

Indoor Unit : SPW-D253GH56

Outdoor Unit : SPW-C253GH8

RATING CAPACITY : 7.3 kW		AIR FLOW RATE : 1380 CMH					
EVAPORATOR		CONDENSER					
ENT. TEMP. °C		AMBIENT TEMP. °C					
WB	DB		25	30	35	40	45
15		TC	7.37	7.03	6.67	6.26	5.81
		CI	2.07	2.22	2.38	2.43	2.49
	21	SHC	5	4.9	4.7	4.5	4.3
	23	SHC	5.8	5.6	5.4	5.2	5
	25	SHC	6.5	6.3	6.2	6	5.7
	27	SHC	7.2	7.03	6.67	6.26	5.81
	29	SHC	7.37	7.03	6.67	6.26	5.81
	31	SHC	7.37	7.03	6.67	6.26	5.81
17		TC	7.61	7.31	6.96	6.59	6.18
		CI	2.13	2.28	2.44	2.5	2.56
	21	SHC	4.1	4	3.8	3.7	3.5
	23	SHC	4.9	4.7	4.6	4.4	4.2
	25	SHC	5.6	5.5	5.3	5.1	5
	27	SHC	6.3	6.2	6	5.9	5.7
	29	SHC	7.1	6.9	6.8	6.59	6.18
	31	SHC	7.61	7.31	6.96	6.59	6.18
19		TC	7.88	7.6	#7.3	6.94	6.54
		CI	2.19	2.35	2.52	2.58	2.64
	21	SHC	3.2	3.1	3	2.9	2.7
	23	SHC	4	3.9	3.7	3.6	3.4
	25	SHC	4.7	4.6	4.5	4.3	4.2
	27	SHC	5.4	5.3	5.2	5.1	4.9
	29	SHC	6.2	6.1	5.9	5.8	5.6
	31	SHC	6.9	6.8	6.7	6.5	6.4
21		TC	8.14	7.85	7.56	7.21	6.86
		CI	2.25	2.41	2.59	2.66	2.72
	23	SHC	3.1	3	2.9	2.7	2.6
	25	SHC	3.8	3.7	3.6	3.5	3.3
	27	SHC	4.6	4.4	4.3	4.2	4.1
	29	SHC	5.3	5.2	5.1	4.9	4.8
		31	SHC	6	5.9	5.8	5.7
23		TC	8.42	8.17	7.88	7.59	7.24
		CI	2.31	2.48	2.66	2.73	2.8
	25	SHC	2.9	2.8	2.7	2.6	2.5
	27	SHC	3.7	3.6	3.5	3.4	3.3
	29	SHC	4.4	4.3	4.2	4.1	4
	31	SHC	5.1	5	4.9	4.8	4.7
25		TC	8.76	8.45	8.2	7.91	7.61
		CI	2.39	2.56	2.71	2.8	2.89
	27	SHC	2.8	2.7	2.6	2.5	2.4
	29	SHC	3.5	3.4	3.3	3.2	3.2
		31	SHC	4.3	4.2	4.1	4

TC : Total Cooling Capacity (kW)

SHC : Sensible Heat Capacity (kW)

CI : Compressor Input (kW)

Rating conditions (#MARK) : Outdoor Ambient Temperature 35°C DB  
Indoor Unit Entering Air Temperature 27°C DB / 19°C WB

## 4. COOLING CAPACITY

Indoor Unit : **SPW-X363GH56**

Outdoor Unit : **SPW-C363GH8**

RATING CAPACITY : 10.6 kW		AIR FLOW RATE : 1800 CMH					
EVAPORATOR		CONDENSER					
ENT. TEMP. °C		AMBIENT TEMP. °C					
WB	DB		25	30	35	40	45
15		TC	10.7	10.21	9.69	9.08	8.44
		CI	2.15	2.29	2.46	2.63	2.82
	21	SHC	7.3	7.1	6.8	6.5	6.2
	23	SHC	8.4	8.1	7.9	7.6	7.3
	25	SHC	9.4	9.2	8.9	8.6	8.3
	27	SHC	10.4	10.2	9.69	9.08	8.44
	29	SHC	10.7	10.21	9.69	9.08	8.44
	31	SHC	10.7	10.21	9.69	9.08	8.44
17		TC	11.06	10.61	10.11	9.57	8.98
		CI	2.2	2.36	2.53	2.71	2.89
	21	SHC	6.1	5.9	5.7	5.4	5.1
	23	SHC	7.1	6.9	6.7	6.4	6.2
	25	SHC	8.1	7.9	7.7	7.5	7.2
	27	SHC	9.2	9	8.8	8.5	8.3
	29	SHC	10.2	10	9.8	9.57	8.98
	31	SHC	11.06	10.61	10.11	9.57	8.98
19		TC	11.45	11.03	#10.6	10.07	9.5
		CI	2.27	2.43	2.61	2.79	2.97
	21	SHC	4.8	4.6	4.5	4.3	4
	23	SHC	5.9	5.7	5.5	5.3	5.1
	25	SHC	6.9	6.7	6.5	6.3	6.1
	27	SHC	7.9	7.8	7.6	7.4	7.1
	29	SHC	9	8.8	8.6	8.4	8.2
	31	SHC	10	9.8	9.6	9.4	9.2
21		TC	11.82	11.41	10.97	10.47	9.96
		CI	2.33	2.5	2.68	2.87	3.06
	23	SHC	4.6	4.4	4.3	4.1	3.9
	25	SHC	5.6	5.5	5.3	5.1	4.9
	27	SHC	6.7	6.5	6.3	6.1	6
	29	SHC	7.7	7.5	7.4	7.2	7
		31	SHC	8.7	8.6	8.4	8.2
23		TC	12.22	11.86	11.45	11.02	10.52
		CI	2.4	2.57	2.75	2.95	3.14
	25	SHC	4.4	4.2	4.1	3.9	3.8
	27	SHC	5.4	5.3	5.1	5	4.8
	29	SHC	6.4	6.3	6.2	6	5.8
	31	SHC	7.5	7.3	7.2	7	6.9
25		TC	12.72	12.27	11.9	11.49	11.05
		CI	2.47	2.65	2.81	3.02	3.23
	27	SHC	4.2	4	3.9	3.8	3.6
	29	SHC	5.2	5.1	4.9	4.8	4.7
		31	SHC	6.2	6.1	6	5.8

TC : Total Cooling Capacity (kW)

SHC : Sensible Heat Capacity (kW)

CI : Compressor Input (kW)

Rating conditions (#MARK) : Outdoor Ambient Temperature 35°C DB  
Indoor Unit Entering Air Temperature 27°C DB / 19°C WB

## 4. COOLING CAPACITY

Indoor Unit : SPW-D483GH56

Outdoor Unit : SPW-C483GH8

RATING CAPACITY : 14 kW		AIR FLOW RATE : 2160 CMH					
EVAPORATOR		CONDENSER					
ENT. TEMP. °C		AMBIENT TEMP. °C					
WB	DB		25	30	35	40	45
15		TC	14.13	13.48	12.8	12	11.14
		CI	3.72	3.97	4.27	4.15	4.05
	21	SHC	9.4	9	8.7	8.3	7.9
	23	SHC	10.6	10.2	9.9	9.5	9.1
	25	SHC	11.8	11.4	11.1	10.7	10.3
	27	SHC	13	12.6	12.3	11.9	11.14
	29	SHC	14.13	13.48	12.8	12	11.14
	31	SHC	14.13	13.48	12.8	12	11.14
17		TC	14.6	14.01	13.36	12.64	11.86
		CI	3.81	4.09	4.38	4.28	4.17
	21	SHC	7.9	7.6	7.3	6.9	6.6
	23	SHC	9.1	8.8	8.5	8.2	7.8
	25	SHC	10.3	10	9.7	9.4	9
	27	SHC	11.5	11.2	10.9	10.6	10.2
	29	SHC	12.7	12.4	12.1	11.8	11.4
	31	SHC	13.9	13.6	13.3	12.64	11.86
19		TC	15.12	14.57	#14	13.3	12.54
		CI	3.93	4.21	4.52	4.42	4.33
	21	SHC	6.4	6.1	5.9	5.6	5.3
	23	SHC	7.6	7.3	7.1	6.8	6.5
	25	SHC	8.8	8.5	8.3	8	7.7
	27	SHC	10	9.7	9.5	9.2	8.9
	29	SHC	11.2	10.9	10.7	10.4	10.1
	31	SHC	12.4	12.2	11.9	11.6	11.3
21		TC	15.61	15.06	14.49	13.83	13.16
		CI	4.04	4.33	4.65	4.56	4.47
	23	SHC	6.1	5.8	5.6	5.3	5.1
	25	SHC	7.3	7	6.8	6.6	6.3
	27	SHC	8.5	8.2	8	7.8	7.5
	29	SHC	9.7	9.5	9.2	9	8.7
		31	SHC	10.9	10.7	10.4	10.2
23		TC	16.14	15.67	15.12	14.56	13.89
		CI	4.15	4.44	4.77	4.69	4.61
	25	SHC	5.7	5.6	5.4	5.2	4.9
	27	SHC	7	6.8	6.6	6.4	6.1
	29	SHC	8.2	8	7.8	7.6	7.3
	31	SHC	9.4	9.2	9	8.8	8.6
25		TC	16.8	16.21	15.72	15.18	14.59
		CI	4.28	4.59	4.86	4.82	4.77
	27	SHC	5.5	5.3	5.1	4.9	4.7
	29	SHC	6.7	6.5	6.3	6.1	6
		31	SHC	7.9	7.7	7.5	7.3

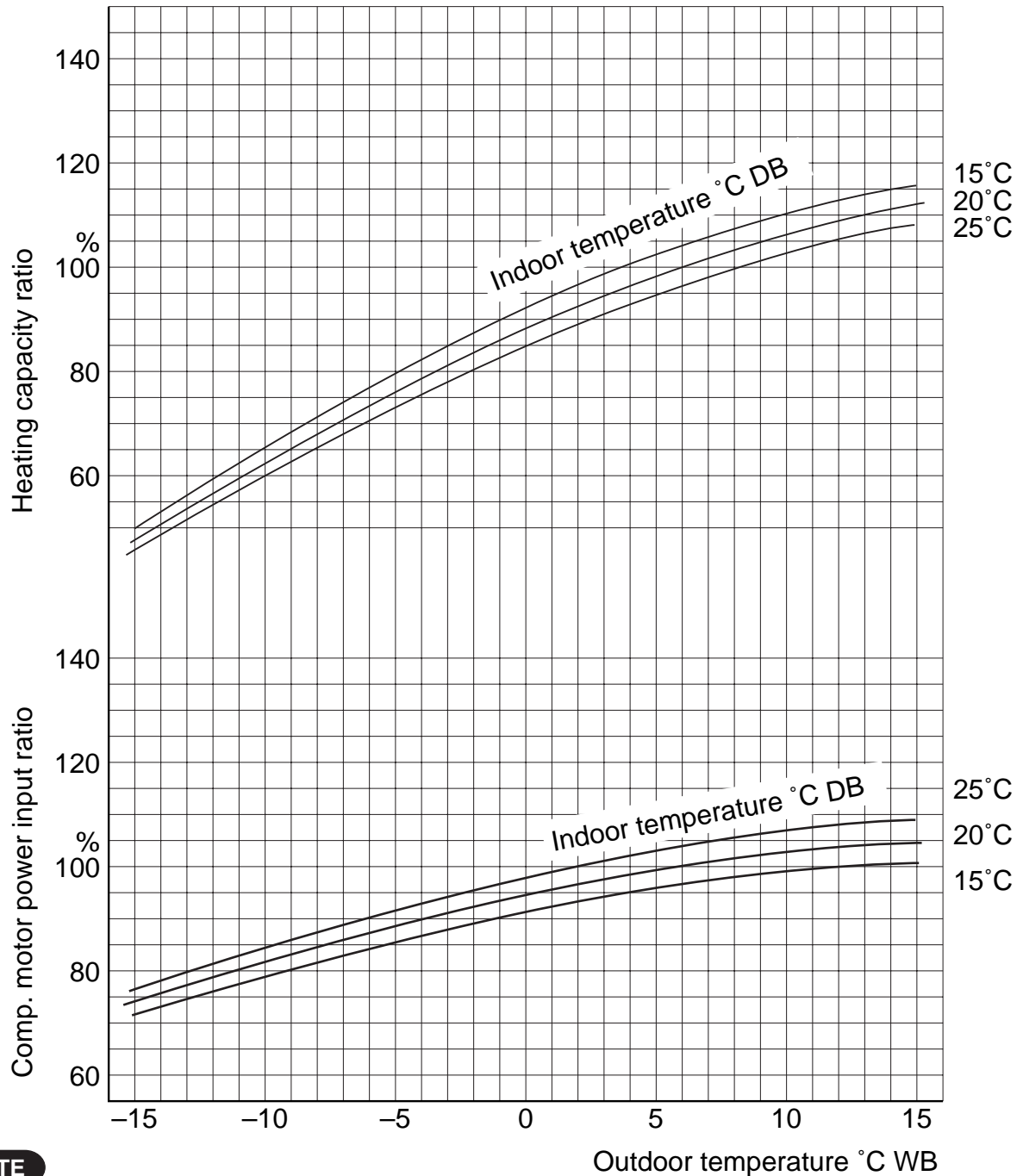
TC : Total Cooling Capacity (kW)

SHC : Sensible Heat Capacity (kW)

CI : Compressor Input (kW)

Rating conditions (#MARK) : Outdoor Ambient Temperature 35°C DB  
Indoor Unit Entering Air Temperature 27°C DB / 19°C WB

## 5. HEATING CAPACITY



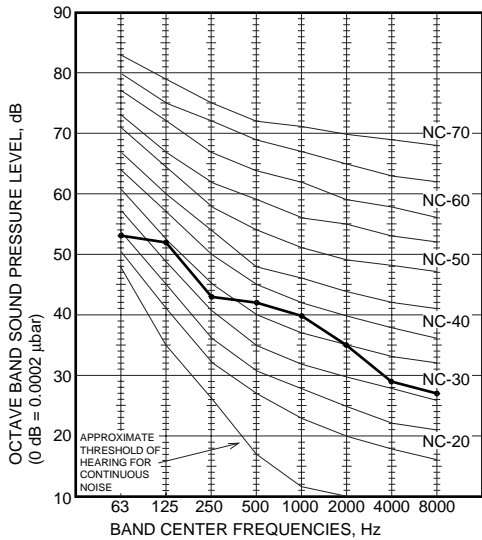
### NOTE

- Above characteristics are based on:
  - Tubing length is 7 meters.
  - Air flow speed is high speed.
- Minimum outdoor ambient temperature:  $-15^{\circ}\text{C WB}$
- Above characteristics indicate instantaneous capacity. Integrated capacity is instantaneous capacity less the effect of frost on the outdoor coil and the drop of performance during defrost cycle.

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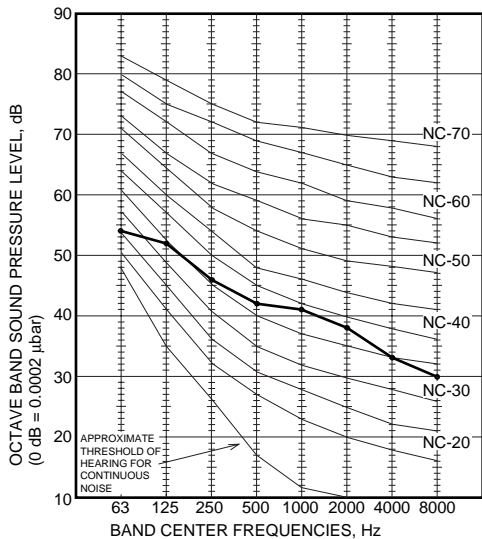
# 6. NOISE CRITERION CURVES

MODEL : SPW-D253GH56  
 SOUND LEVEL : HIGH 44 dB(A), NC 38  
 CONDITION : Under the unit 1.5m  
 SOURCE : 220 - 230 - 240 V, 1 Phase, 50 Hz



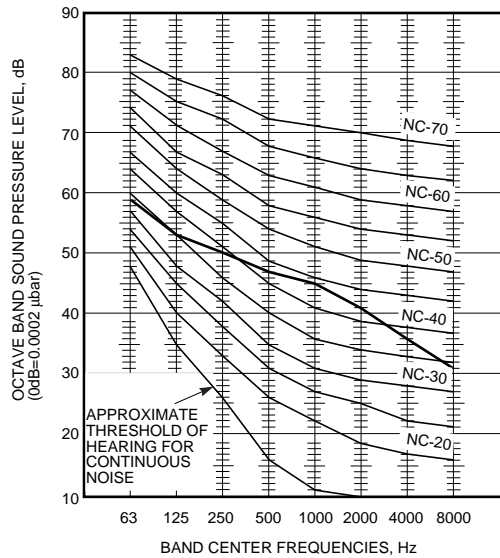
0313\_D\_1

MODEL : SPW-D363GH56  
 SOUND LEVEL : HIGH 45 dB(A), NC 39  
 CONDITION : Under the unit 1.5m  
 SOURCE : 220 - 230 - 240 V, 1 Phase, 50 Hz



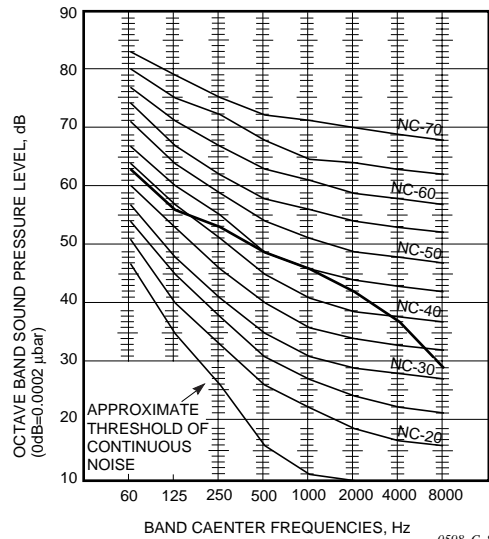
0314\_D\_1

MODEL : SPW-C253GH5, C253GH8  
 SOUND LEVEL : 52 dB(A), NC 44  
 CONDITION : Distance 1m, Height 1m  
 SOURCE : 220 - 230 - 240 V, 1 Phase, 50 Hz  
 380 - 400 - 415V, 3 Phase, 50 Hz



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MODEL : SPW-C363GH8  
 SOUND LEVEL : 53 dB(A), NC 45  
 CONDITION : Distance 1m, Height 1m  
 SOURCE : 380 - 400 - 415 V, 3 Phase, 50 Hz



0598\_C\_S

**REMARKS** : 1. Value obtained in the actual place where the unit is installed may be slightly higher than the values shown in this graph because of the conditions of operation, the structure of the building, the background noise and other factors.

2. The test results were obtained from an anechoic room.

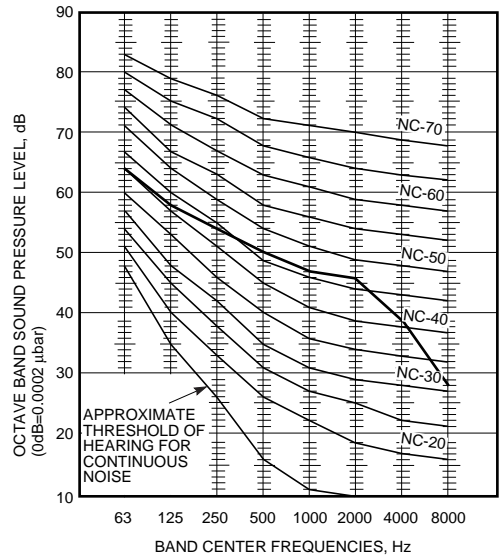
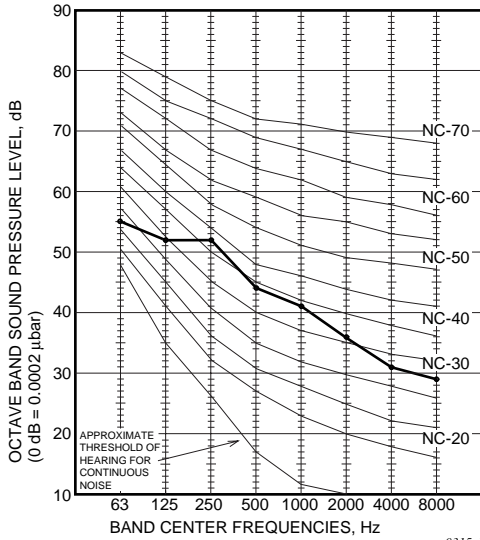
**NOTE**

To evaluate "Noise level" the maximum number of the measured OCTAVE BAND SOUND PRESSURE LEVEL is used. Read the number on each BAND CENTER FREQUENCIES (horizontal axis) ranging from 63Hz to 8000Hz and select the maximum value (vertical axis) among them.

## 6. NOISE CRITERION CURVES

MODEL : SPW-D483GH56  
 SOUND LEVEL : HIGH 47 dB(A), NC 42  
 CONDITION : Under the unit 1.5m  
 SOURCE : 220 - 230 - 240 V, 1 Phase, 50 Hz

MODEL : SPW-C483GH8  
 SOUND LEVEL : 55 dB(A), NC 47  
 CONDITION : Distance 1m, Height 1m  
 SOURCE : 380 - 400 - 415V, 3 Phase, 50 Hz



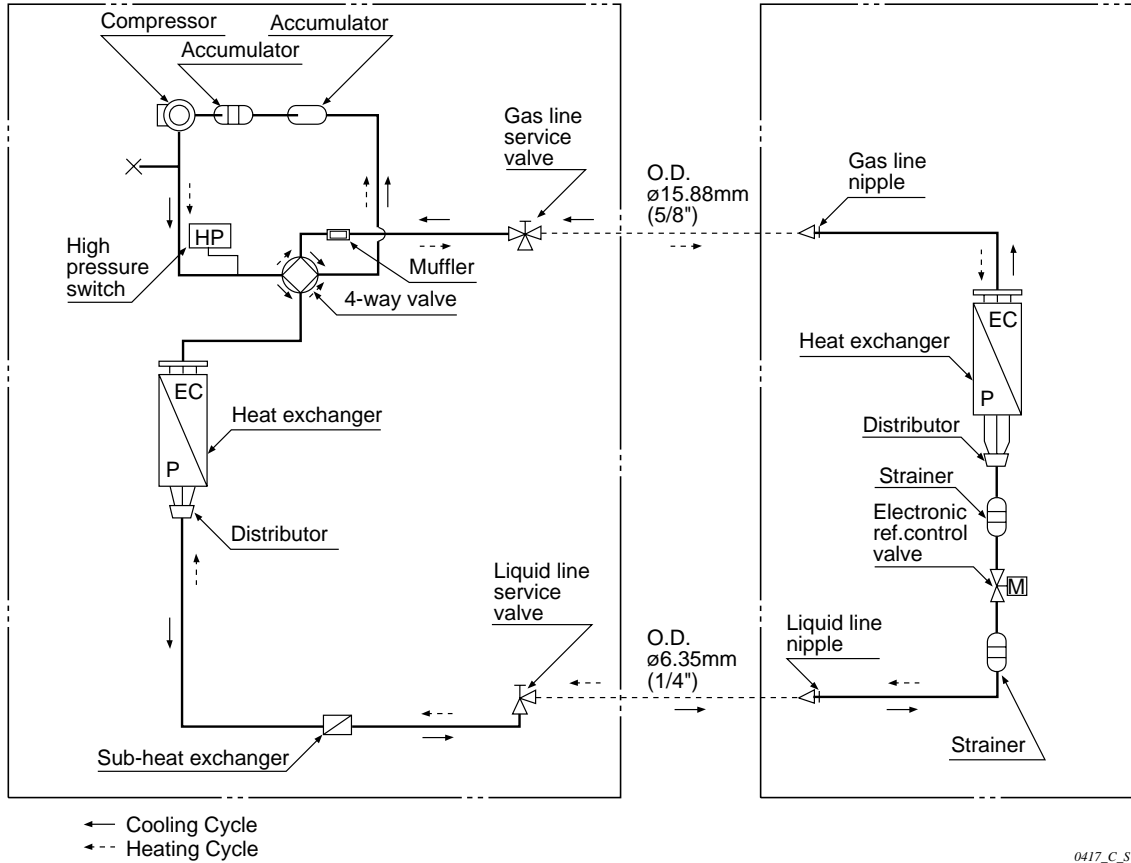
- REMARKS :**
- Value obtained in the actual place where the unit is installed may be slightly higher than the values shown in this graph because of the conditions of operation, the structure of the building, the background noise and other factors.
  - The test results were obtained from an anechoic room.

**NOTE** To evaluate "Noise level" the maximum number of the measured OCTAVE BAND SOUND PRESSURE LEVEL is used. Read the number on each BAND CENTER FREQUENCIES (horizontal axis) ranging from 63Hz to 8000Hz and select the maximum value (vertical axis) among them.

# 7. REFRIGERANT FLOW DIAGRAM

Outdoor Unit : SPW-C253GH5  
: SPW-C253GH8

Indoor Unit : SPW-D253GH5



## Insulation of Refrigerant Tubing

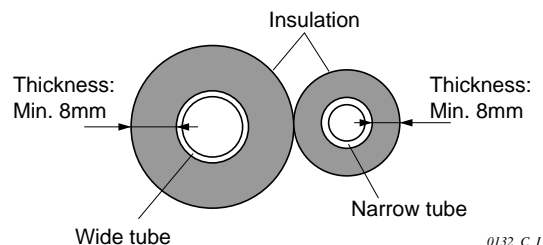
### IMPORTANT

To prevent heat loss and wet floors due to dripping of condensation, **both the wide and narrow tubes must be well insulated with a proper insulation material.** The thickness of the insulation should be a min. 8 mm.



CAUTION

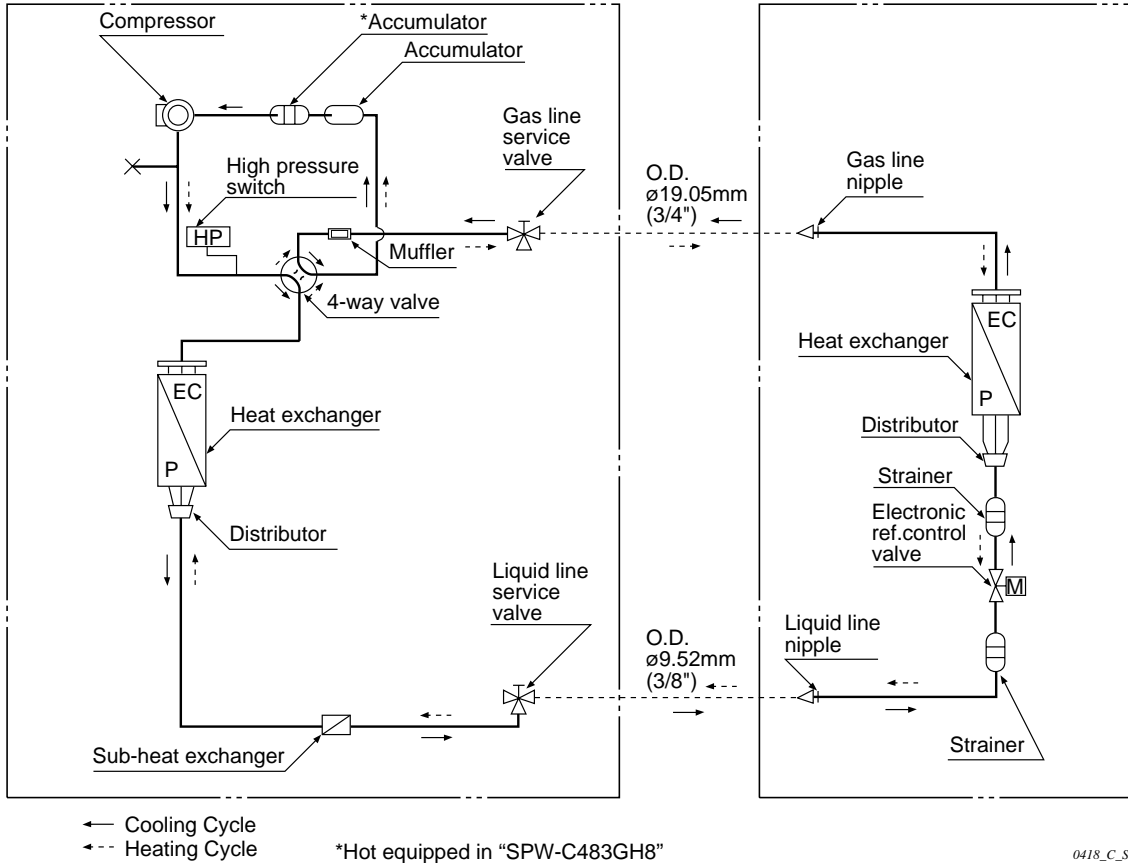
After a tube has been insulated, never try to bend it into a narrow curve because it can casue the tube to break or crack.



# 7. REFRIGERANT FLOW DIAGRAM

Outdoor Unit : SPW-C363GH8  
: SPW-C483GH8

Indoor Unit: SPW-D363GH5  
: SPW-D483GH5



## Insulation of Refrigerant Tubing

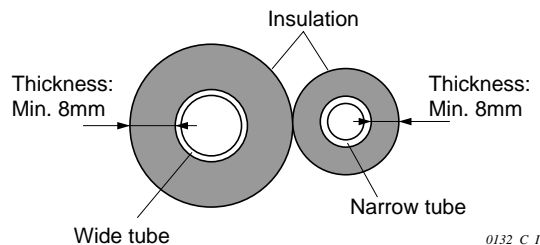
### IMPORTANT

To prevent heat loss and wet floors due to dripping of condensation, **both the wide and narrow tubes must be well insulated with a proper insulation material.** The thickness of the insulation should be a min. 8 mm.



CAUTION

After a tube has been insulated, never try to bend it into a narrow curve because it can casue the tube to break or crack.



## 8. INSTALLATION INSTRUCTIONS 8 – (1)

### (1) Tubing length

- Refrigerant tubes between the indoor and outdoor units shall be kept as short as possible.
- The length of the refrigerant tubes between the indoor and outdoor units are limited by the elevation difference between the two units.

During tubing work, try to make both the tubing length (L) and the difference in elevation (H) as short as possible. Refer to Table 1 and Fig. 1 for the details.

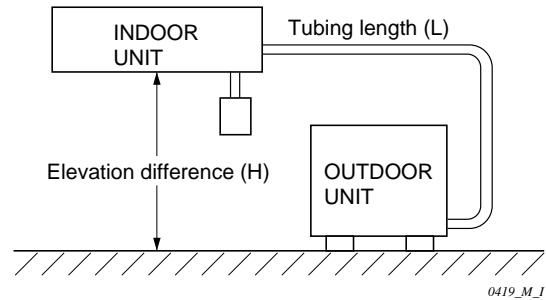


Fig. 1

Table 1

Tubing data		Models	25 type	36 type	48 type
Tubing size outer diameter	Narrow tube	mm (in.)	6.35 (1/4)	9.52 (3/8)	9.52 (3/8)
	Wide tube	mm (in.)	15.88 (5/8)	19.05 (3/4)	19.05 (3/4)
Limit of tubing length		(m)	50	50	50
Limit of elevation difference between the two units	Outdoor unit is placed upper	(m)	50	50	50
	Outdoor unit is placed lower	(m)	30	30	30
Max. allowable tubing length at shipment		(m)	30	30	30
Required additional refrigerant*1		(g/m)	a) 45	b) 50	b) 50
Refrigerant charged at shipment		(kg)	3.0	3.5	4.5

No additional charge of compressor oil is necessary.

\*1 If total tubing length becomes 30 to 50 m, charge additional refrigerant (R22) by a) 45 or b) 50 g/m.

## 8. INSTALLATION INSTRUCTIONS 8 – (2)

### (2) Installation Site Selection

#### Indoor Unit

#### AVOID:

- areas where leakage of flammable gas may be expected.
- places where large amounts of oil mist exist.
- direct sunlight.
- nearby heat sources that may affect performance of the unit.
- locations where the remote control unit will be splashed with water or affected by dampness or humidity.
- installing remote control unit behind curtains or furniture that obstruct air circulation.

#### DO:

- select an appropriate position from which every corner of the room can be uniformly air-conditioned.
- select a location where the ceiling is sufficiently strong enough to support the weight of the unit.
- select a location where the tubing and drain pipe have shortest run to the outside.
- allow room for operation and maintenance as well as unrestricted air flow around the unit. Fig. 2.
- install the unit within the maximum elevation difference (H) up or down of outdoor unit and within a total tubing length (L) from outdoor unit stipulated in Table 1.
- allow room for mounting the remote control unit about 1 m (4 ft.) off the floor, in an area that is not in direct sunlight or in the flow of cool air from the unit.

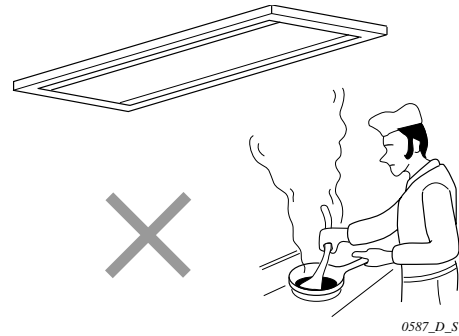


Fig. 2

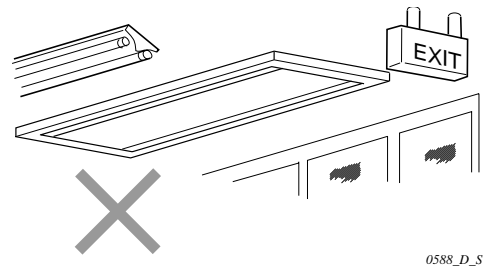


Fig. 3

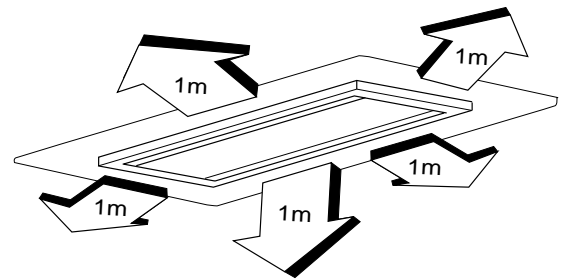


Fig. 4

## 8. INSTALLATION INSTRUCTIONS 8 – (2)

### Outdoor Unit

#### AVOID:

- heat sources, exhaust fans, etc. Fig. 5
- damp, humid or uneven locations.

#### DO:

- choose a place as cool as possible.
- choose a place that is well ventilated and outside air temperature does not exceed maximum 45 °C constantly.
- allow enough room around unit for air intake/exhaust and possible maintenance. Fig. 6
- provide a solid base; about 15 cm above ground level to reduce humidity and possible water damage in unit and decrease service life. Fig. 7
- use lag bolts or equal to bolt down unit, reducing vibration and noise.

### CAUTION

If more than 2 outdoor units are installed in the same location, keep at least 3 meters away from the neighboring unit to avoid influence of air discharge.

### Air discharge chamber for top discharge

Be sure to install the air discharge chamber in the field when:

- it is difficult to keep a space of min. 50 cm between the air discharge outlet and the obstacle.
- the air discharge outlet is facing to the sidewalk and discharged hot air annoys the passers.

Refer to Fig. 7 and Fig. 8.

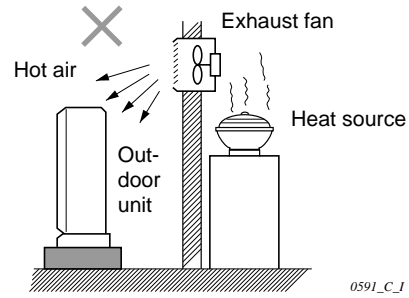


Fig. 5

Table 5 ① Dimension

Model	Min. (cm)
25 type	10
36, 48 type	20

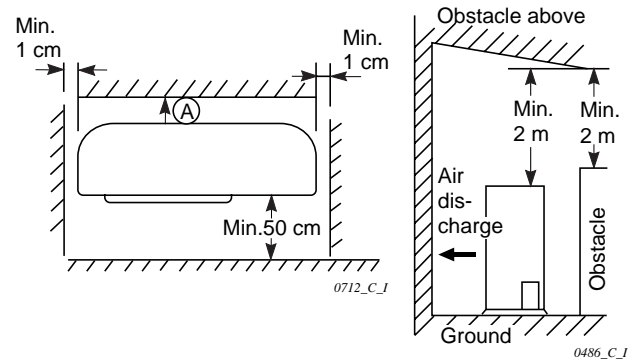


Fig.6

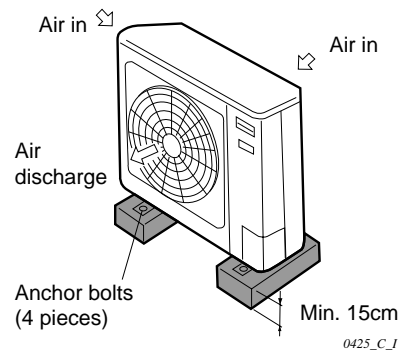


Fig.7

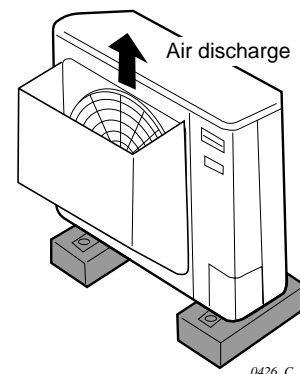
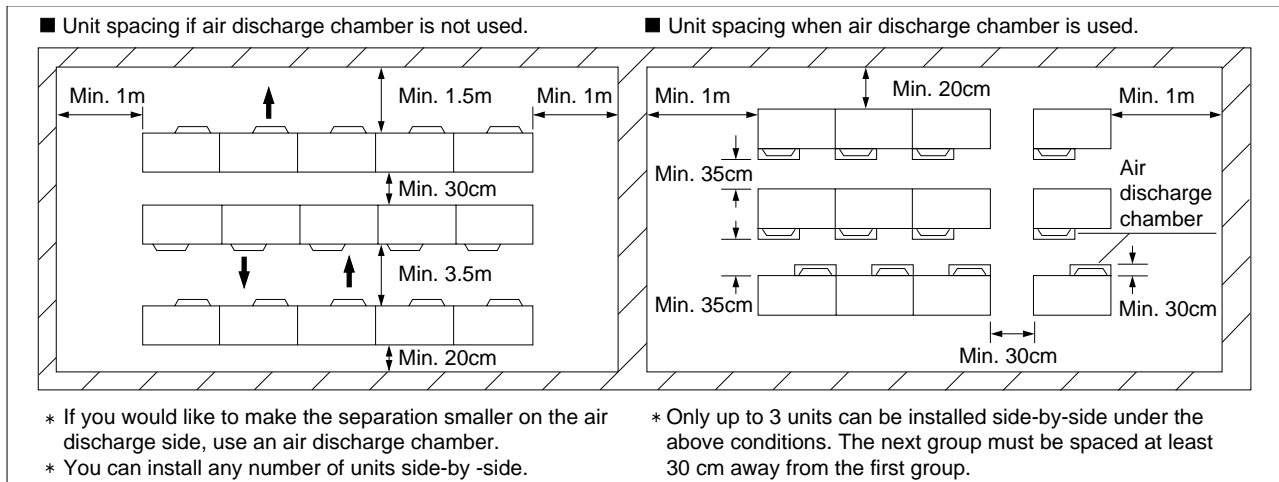


Fig. 8

## 8. INSTALLATION INSTRUCTIONS 8 – (2), (3)

### In case of multiple installations



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### (3) Electrical Wiring

#### General Precautions on Wiring

- (1) Before wiring, confirm the rated voltage of the unit as shown on its nameplate, then carry out the wiring closely following the wiring diagram.
- (2) **Provide a power outlet to be used exclusively for each unit, and a power supply disconnect and circuit breaker for overcurrent protection should be provided in the exclusive line.**
- (3) To prevent possible hazards due to insulation failure, the unit must be grounded.
- (4) Each wiring connection must be done in accordance with the wiring system diagram. Wrong wiring may cause the unit to misoperate or become damaged.
- (5) Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.
- (6) Unauthorized changes in the internal wiring can be very dangerous. The manufacturer will accept no responsibility for any damage or misoperation that occurs as a result of such unauthorized changes.
- (7) **If the respective phases of the 3-phase power wiring are not connected correctly, a reverse phase will occur and the compressor will not start running. If this happens, swap over 2 of the 3 phases (R, S, and T).**

Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must insure that installation complies with all relevant rules and regulations.
- (8) To prevent malfunction of the air conditioner caused by electrical noise, care must be taken when wiring as follows:
  - The remote control wiring and the inter-unit control wiring should be wired apart from the inter-unit power wiring.
  - It is recommended that shielded wires or twisted pair wires be used for the remote control and the inter-unit control wiring if the air conditioner is installed where it is exposed to the influence of electrical and/or electro-magnetic noise.

# 8. INSTALLATION INSTRUCTIONS 8 – (3)

**Table 3 Recommended Wire Length and Wire Diameter for Power Supply System**

\* AWG = American Wire Gauge

Single Type (One indoor unit / one outdoor unit)

Type	(A) Power Supply	(B) Inter-unit wiring	Time Delay Fuse or Circuit Capacity	Power Supply Terminal Base	
	4 mm <sup>2</sup>	2.5 mm <sup>2</sup>		Capacity	Max. Wire Diameter
25 type (3 phase)	102 m	50 m	15 A	25 A	5.5 mm <sup>2</sup> (AWG#10)
36 type (3 phase)	96 m	50 m	15 A	25 A	5.5 mm <sup>2</sup> (AWG#10)
48 type (3 phase)	63 m	50 m	25 A	25 A	5.5 mm <sup>2</sup> (AWG#10)
25 type (1 phase)	17 m	50 m	40 A	50 A	14 mm <sup>2</sup> (AWG#6)

**Table 4 Control Wiring**

(C) Inter-Unit Control Wiring	(D) Remote Control Wiring	(E) Control Wiring For Group Control
0.75 mm <sup>2</sup> (AWG#18) Use Shielded Wiring	0.75 mm <sup>2</sup> (AWG#18)	0.75 mm <sup>2</sup> (AWG#18)
Max. 1000 m	Max. 1000 m	Max. 1000 m

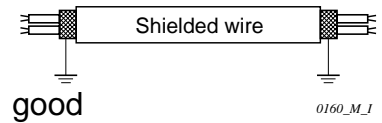
## Wiring System Diagrams

(1) Basic wiring diagram for standard control



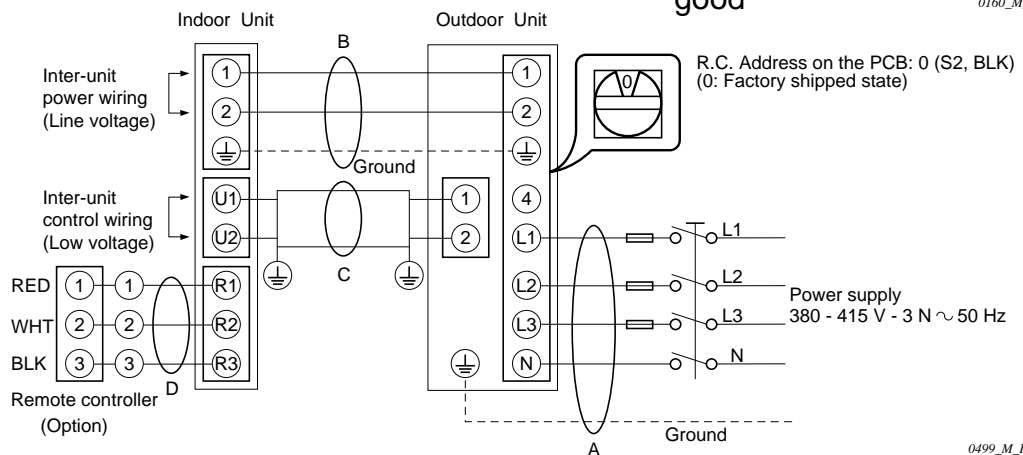
CAUTION

Use shielded wires for inter-unit control wiring (c) and ground the shielded on both sides.

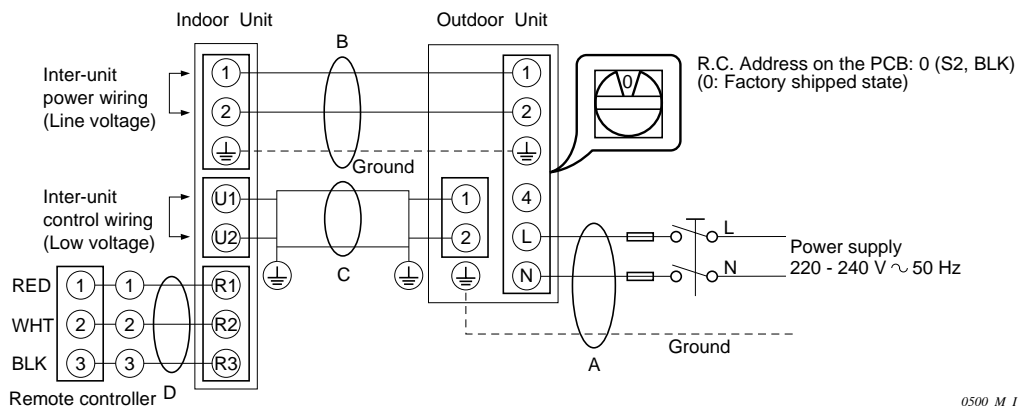


① Single type (one indoor unit), Wired type

①-1. 3-phase outdoor unit



①-2. Single-phase outdoor unit



## 9. ELECTRICAL DATA

### ● Electrical characteristics

**Indoor model : SPW-D253GH56 / Outdoor model : SPW-C253GH5**

### ● Cooling

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240 V / 1 phase / 50 Hz		220 - 240 V / 1 phase / 50 Hz	
Rating conditions	A	2.29 / 2.31	0.62 / 0.65	13.68 / 13.92	16.59 / 16.88
	kW	0.48 / 0.53	0.13 / 0.15	2.89 / 2.95	3.50 / 3.63
Full load conditions	A	2.29 / 2.31	0.62 / 0.65	15.78 / 15.72	18.69 / 18.68
	kW	0.48 / 0.53	0.13 / 0.15	3.36 / 3.42	3.97 / 4.10
Starting amperes	A	3 / 3	1 / 1	66 / 72	70 / 76

### ● Heating

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240 V / 1 phase / 50 Hz		220 - 240 V / 1 phase / 50 Hz	
Rating conditions	A	2.29 / 2.31	0.62 / 0.65	13.81 / 14.03	16.72 / 16.99
	kW	0.48 / 0.53	0.13 / 0.15	2.91 / 2.97	3.52 / 3.65
Full load conditions	A	2.29 / 2.31	0.62 / 0.65	15.11 / 14.83	18.02 / 17.79
	kW	0.48 / 0.53	0.13 / 0.15	3.13 / 3.22	3.74 / 3.90
Starting amperes	A	3 / 3	1 / 1	66 / 72	70 / 76

### Cooling:

Rating Conditions : Indoor Air Temperature 27°C DB / 19°C WB  
 Outdoor Air Temperature 35°C DB  
 Full Load Conditions : Indoor Air Temperature 35°C DB / 25°C WB  
 Outdoor Air Temperature 45°C DB

### Heating:

Rating Conditions : Indoor Air Temperature 20°C DB  
 Outdoor Air Temperature 7°C DB / 6°C WB  
 Full Load Conditions : Indoor Air Temperature 24°C DB  
 Outdoor Air Temperature 24°C DB / 15.5°C WB

## 9. ELECTRICAL DATA

### ● Electrical characteristics

**Indoor model : SPW-D253GH56 / Outdoor model : SPW-C253GH8**

### ● Cooling

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240 V / 1 phase / 50 Hz		380 - 415 V / 3 phase / 50 Hz	
Rating conditions	A	2.29 / 2.31	0.62 / 0.65	4.46 / 4.08	5.41 / 5.05
	kW	0.48 / 0.53	0.13 / 0.15	2.50 / 2.52	3.11 / 3.20
Full load conditions	A	2.29 / 2.31	0.62 / 0.65	4.98 / 4.57	5.94 / 5.55
	kW	0.48 / 0.53	0.13 / 0.15	2.85 / 2.89	3.46 / 3.57
Starting amperes	A	3 / 3	1 / 1	24 / 27	28 / 31

### ● Heating

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240 V / 1 phase / 50 Hz		380 - 415 V / 3 phase / 50 Hz	
Rating conditions	A	2.29 / 2.31	0.62 / 0.65	4.63 / 4.40	5.58 / 5.36
	kW	0.48 / 0.53	0.13 / 0.15	2.61 / 2.63	3.22 / 3.30
Full load conditions	A	2.29 / 2.31	0.62 / 0.65	5.40 / 4.94	6.35 / 5.91
	kW	0.48 / 0.53	0.13 / 0.15	3.02 / 3.05	3.63 / 3.73
Starting amperes	A	3 / 3	1 / 1	24 / 27	28 / 31

#### Cooling:

Rating Conditions : Indoor Air Temperature 27°C DB / 19°C WB  
 Outdoor Air Temperature 35°C DB  
 Full Load Conditions : Indoor Air Temperature 35°C DB / 25°C WB  
 Outdoor Air Temperature 45°C DB

#### Heating:

Rating Conditions : Indoor Air Temperature 20°C DB  
 Outdoor Air Temperature 7°C DB / 6°C WB  
 Full Load Conditions : Indoor Air Temperature 24°C DB  
 Outdoor Air Temperature 24°C DB / 15.5°C WB

## 9. ELECTRICAL DATA

### ● Electrical characteristics

**Indoor model : SPW-D363GH5 / Outdoor model : SPW-C363GH8**

### ● Cooling

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240 V / 1 phase / 50 Hz		380 - 415 V / 3 phase / 50 Hz	
Rating conditions	A	2.46 / 2.47	1.24 / 1.31	4.58 / 4.32	5.79 / 5.55
	kW	0.52 / 0.57	0.26 / 0.29	2.62 / 2.61	3.40 / 3.47
Full load conditions	A	2.46 / 2.47	1.24 / 1.31	5.58 / 5.29	6.80 / 6.52
	kW	0.52 / 0.57	0.26 / 0.29	3.27 / 3.23	4.05 / 4.09
Starting amperes	A	4 / 4	3 / 3	26 / 29	32 / 35

### ● Heating

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240V / 1 phase / 50 Hz		380 - 415V / 3 phase / 50 Hz	
Rating conditions	A	2.46 / 2.47	1.24 / 1.31	4.66 / 4.4	5.88 / 5.64
	kW	0.52 / 0.57	0.26 / 0.29	2.73 / 2.74	3.50 / 3.60
Full load conditions	A	2.46 / 2.47	1.24 / 1.31	5.40 / 5.23	6.62 / 6.46
	kW	0.52 / 0.57	0.26 / 0.29	3.13 / 3.16	3.91 / 4.02
Starting amperes	A	4 / 4	3 / 3	26 / 29	32 / 35

### Cooling:

Rating Conditions : Indoor Air Temperature 27°C DB / 19°C WB  
 Outdoor Air Temperature 35°C DB  
 Full Load Conditions : Indoor Air Temperature 35°C DB / 25°C WB  
 Outdoor Air Temperature 45°C DB

### Heating:

Rating Conditions : Indoor Air Temperature 20°C DB  
 Outdoor Air Temperature 7°C DB / 6°C WB  
 Full Load Conditions : Indoor Air Temperature 24°C DB  
 Outdoor Air Temperature 24°C DB / 15.5°C WB

## 9. ELECTRICAL DATA

### ● Electrical characteristics

**Indoor model : SPW-D483GH56 / Outdoor model : SPW-C483GH8**

### ● Cooling

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240V / 1 phase / 50 Hz		380 - 415V / 3 phase / 50 Hz	
Rating conditions	A	2.80 / 3.00	1.24 / 1.31	7.76 / 8.12	9.05 / 9.43
	kW	0.60 / 0.71	0.26 / 0.29	4.29 / 4.52	5.15 / 5.52
Full load conditions	A	2.80 / 3.00	1.24 / 1.31	8.38 / 8.57	9.68 / 9.88
	kW	0.60 / 0.71	0.26 / 0.29	4.72 / 4.77	5.58 / 5.77
Starting amperes	A	4 / 4	3 / 3	66 / 70	73 / 77

### ● Heating

		Indoor Unit	Outdoor Unit		Complete Unit
		Fan Motor	Fan Motor	Compressor	
Performance at		220 - 240V / 1 phase / 50 Hz		380 - 415V / 3 phase / 50 Hz	
Rating conditions	A	2.80 / 3.00	1.24 / 1.31	8.30 / 8.53	9.60 / 9.85
	kW	0.60 / 0.71	0.26 / 0.29	4.65 / 4.82	5.51 / 5.82
Full load conditions	A	2.80 / 3.00	1.24 / 1.31	9.11 / 8.43	10.42 / 9.81
	kW	0.60 / 0.71	0.26 / 0.29	5.20 / 5.26	6.06 / 6.26
Starting amperes	A	4 / 4	3 / 3	66 / 70	73 / 77

### Cooling:

Rating Conditions : Indoor Air Temperature 27°C DB / 19°C WB  
 Outdoor Air Temperature 35°C DB  
 Full Load Conditions : Indoor Air Temperature 35°C DB / 25°C WB  
 Outdoor Air Temperature 45°C DB

### Heating:

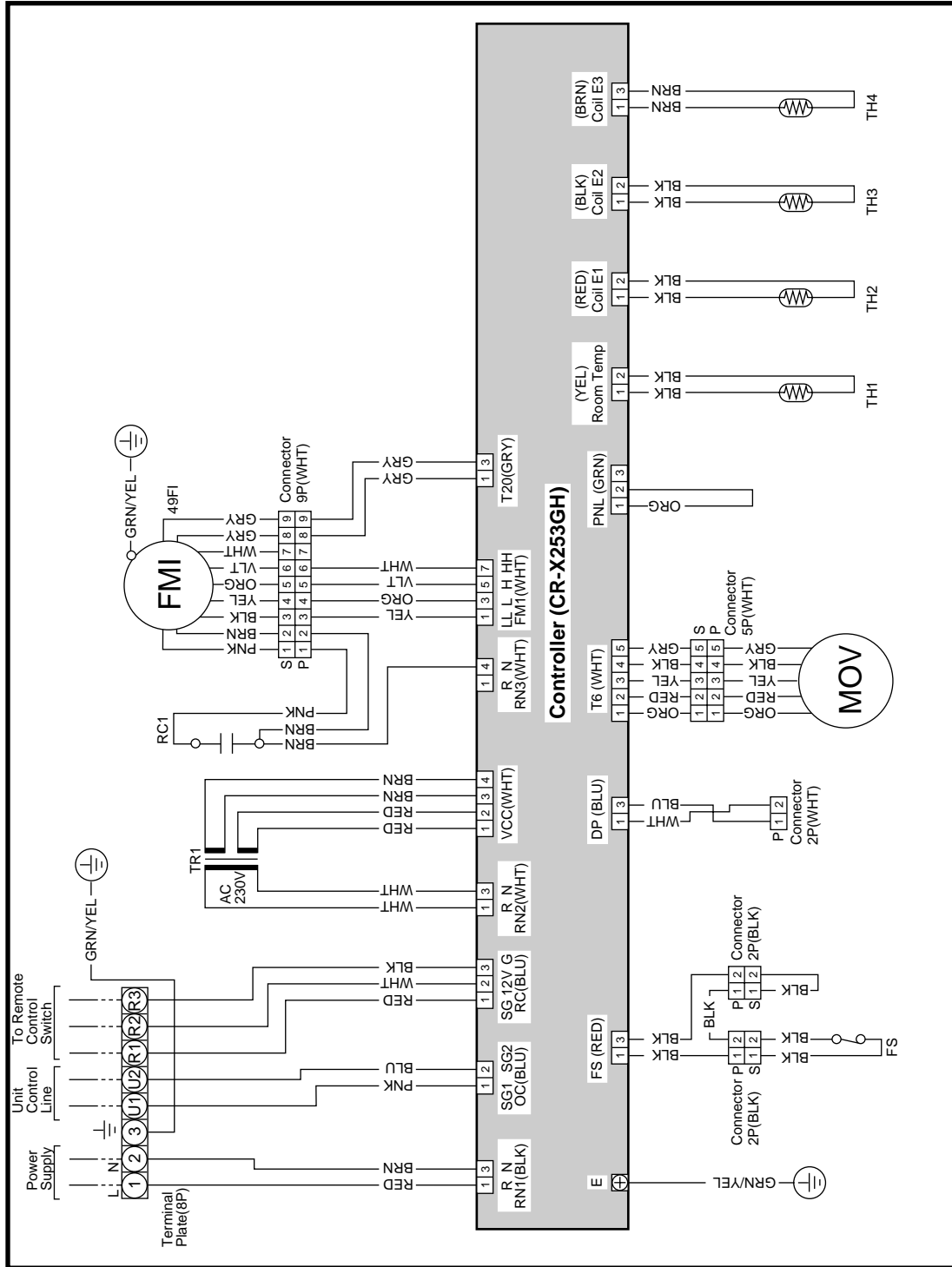
Rating Conditions : Indoor Air Temperature 20°C DB  
 Outdoor Air Temperature 7°C DB / 6°C WB  
 Full Load Conditions : Indoor Air Temperature 24°C DB  
 Outdoor Air Temperature 24°C DB / 15.5°C WB

# 10. ELECTRIC WIRING DIAGRAMS 10 – (1)

## 10 – (1) Indoor Unit

### ① SPW-D253GH56

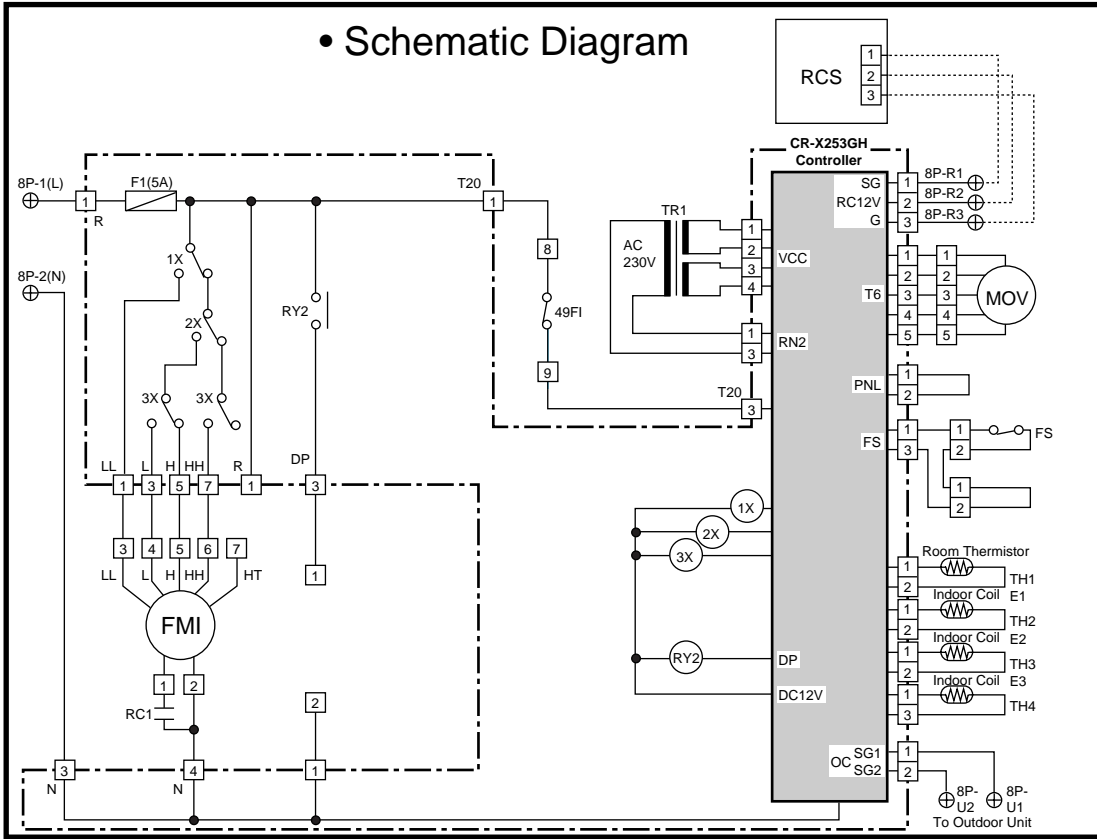
#### • Electric Wiring Diagram



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# 10. ELECTRIC WIRING DIAGRAM 10 – ( 1 )

## 10 – ( 1 ) Indoor Unit ① SPW-D253GH56



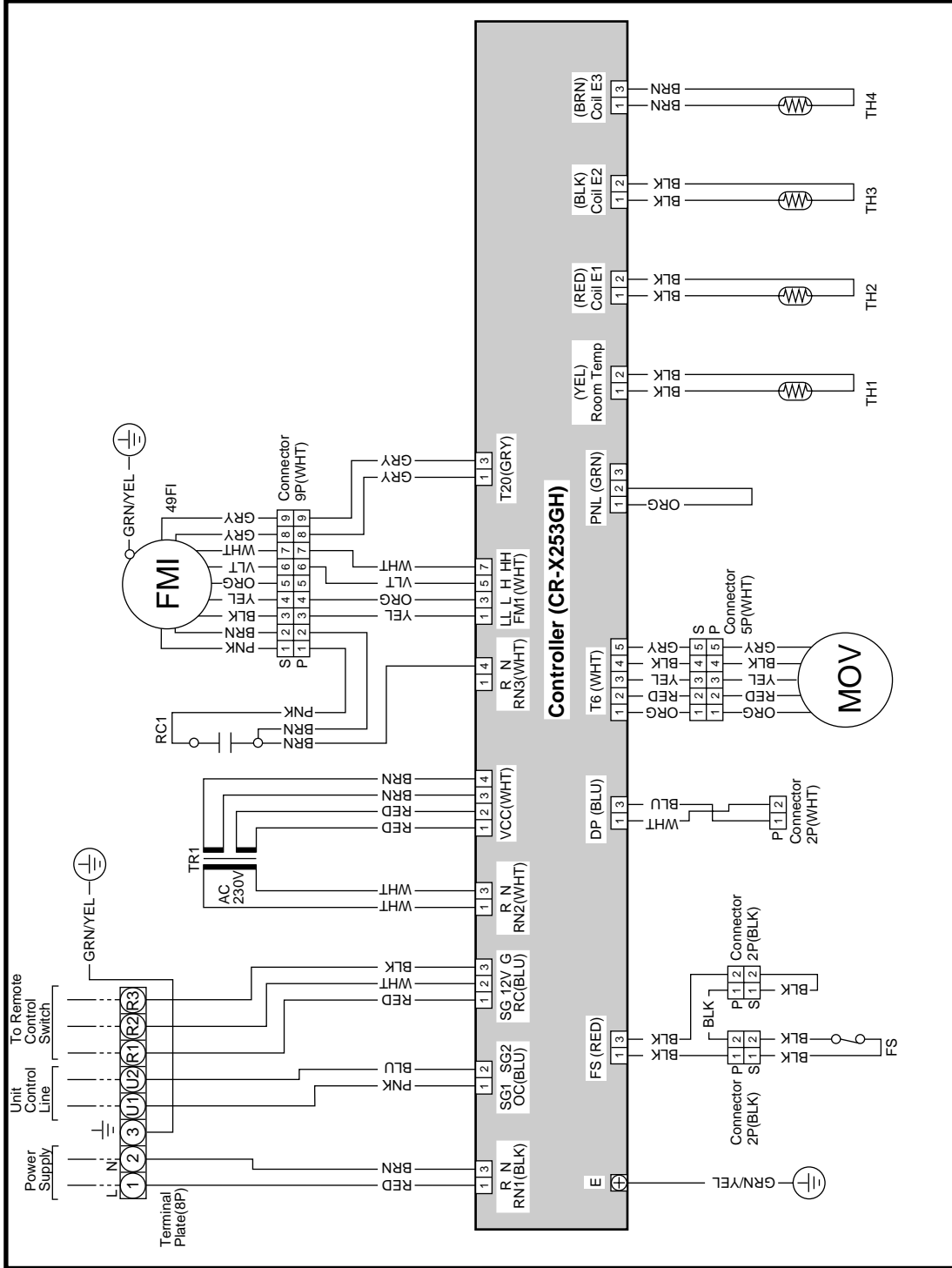
Symbols	Description	Symbols	Description
FMI	Indoor Fan Motor	TH4	Thermistor (Indoor Coil E3)
49FI	Indoor Motor Thermal Protector	CR-X253GH	Indoor Controller
RC1	Running Capacitor	⊕	Terminal Plate
F1	Fuse	□	Connector
TR1	Power Transformer	⊕	Terminal
1X-3X	Auxiliary Relay	FS	Float Switch
RY2	Auxiliary Relay		
MOV	Motor Operated Valve		
RCS	Remote Control Switch		
TH1	Room Thermistor		
TH2	Thermistor (Indoor Coil E1)		
TH3	Thermistor (Indoor Coil E2)		

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# 10. ELECTRIC WIRING DIAGRAMS 10 – (1)

## 10 – (1) Indoor Unit ② SPW-D363GH56

### • Electric Wiring Diagram

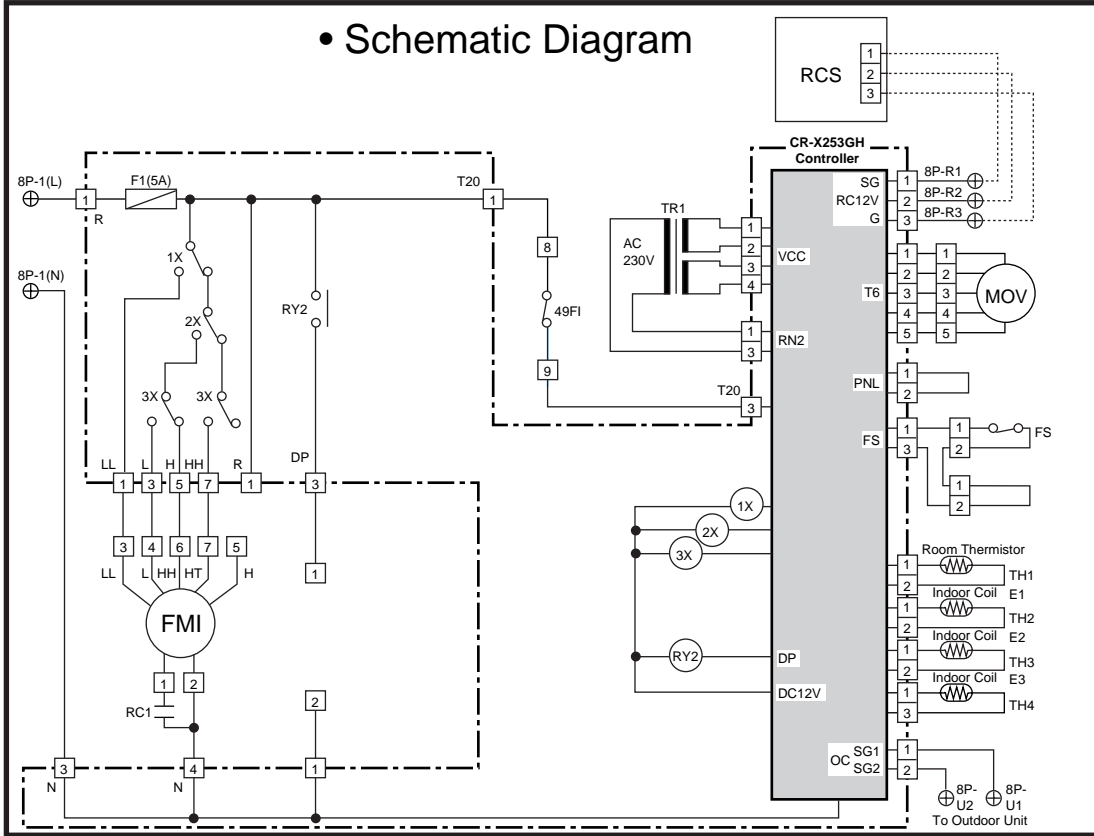


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# 10. ELECTRIC WIRING DIAGRAMS 10 – (1)

## 10 – (1) Indoor Unit

### ② SPW-D363GH56



Symbols	Description	Symbols	Description
FMI	Indoor Fan Motor	TH4	Thermistor (Indoor Coil E3)
49FI	Indoor Motor Thermal Protector	CR-X253GH	Indoor Controller
RC1	Running Capacitor	⊕	Terminal Plate
F1	Fuse	□	Connector
TR1	Power Transformer	⊕	Terminal
1X-3X	Auxiliary Relay	FS	Float Switch
RY2	Auxiliary Relay		
MOV	Motor Operated Valve		
RCS	Remote Control Switch		
TH1	Room Thermistor		
TH2	Thermistor (Indoor Coil E1)		
TH3	Thermistor (Indoor Coil E2)		

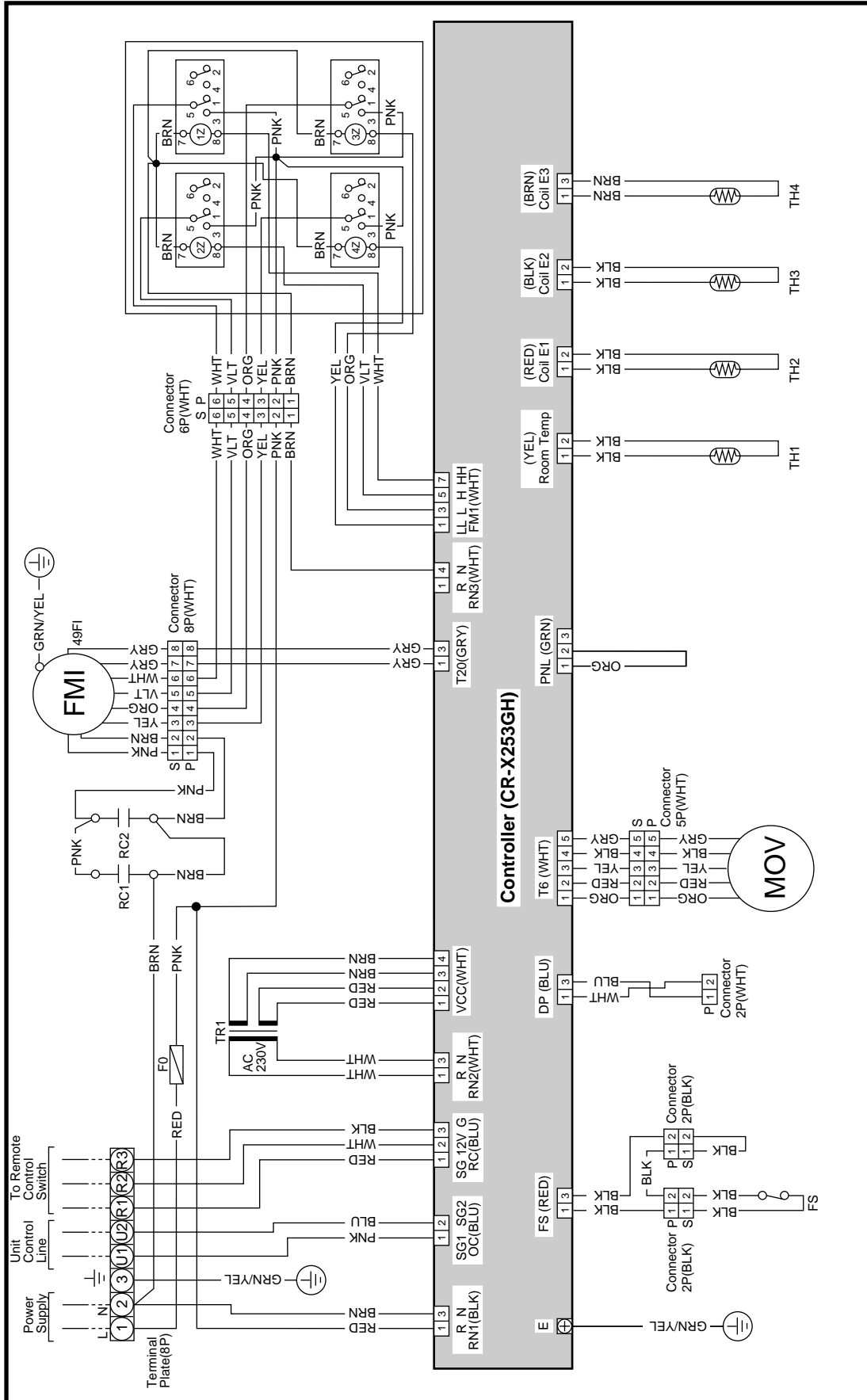
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# 10. ELECTRIC WIRING DIAGRAMS 10 – (1)

## 10 – (1) Indoor Unit

### ③ SPW-D483GH56

## • Electric Wiring Diagram

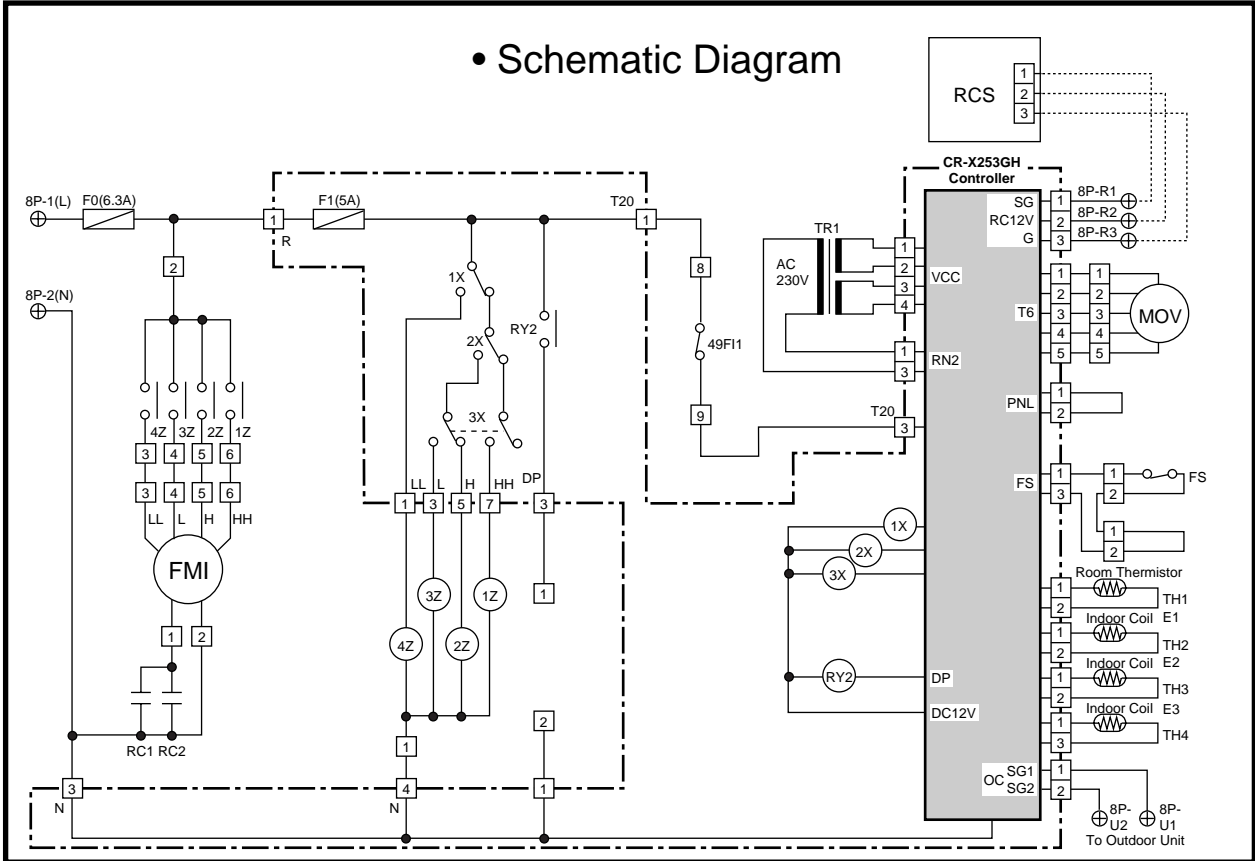


④ 854-2-5268-428-00-1 (D)

# 10. ELECTRIC WIRING DIAGRAMS 10 – (1)

## 10 – (1) Indoor Unit

### ③ SPW-D483GH56



Symbols	Description	Symbols	Description
FMI	Indoor Fan Motor	TH4	Thermistor (Indoor Coil E3)
49F1	Indoor Motor Thermal Protector	CR-X253GH	Indoor Controller
RC1, 2	Running Capacitor	⊕	Terminal Plate
F0, 1	Fuse	□	Connector
TR1	Power Transformer	⊕	Terminal
1X-3X	Auxiliary Relay	FS	Float Switch
RY2	Auxiliary Relay	1Z-4Z	Auxiliary Relay
MOV	Motor Operated Valve		
RCS	Remote Control Switch		
TH1	Room Thermistor		
TH2	Thermistor (Indoor Coil E1)		
TH3	Thermistor (Indoor Coil E2)		

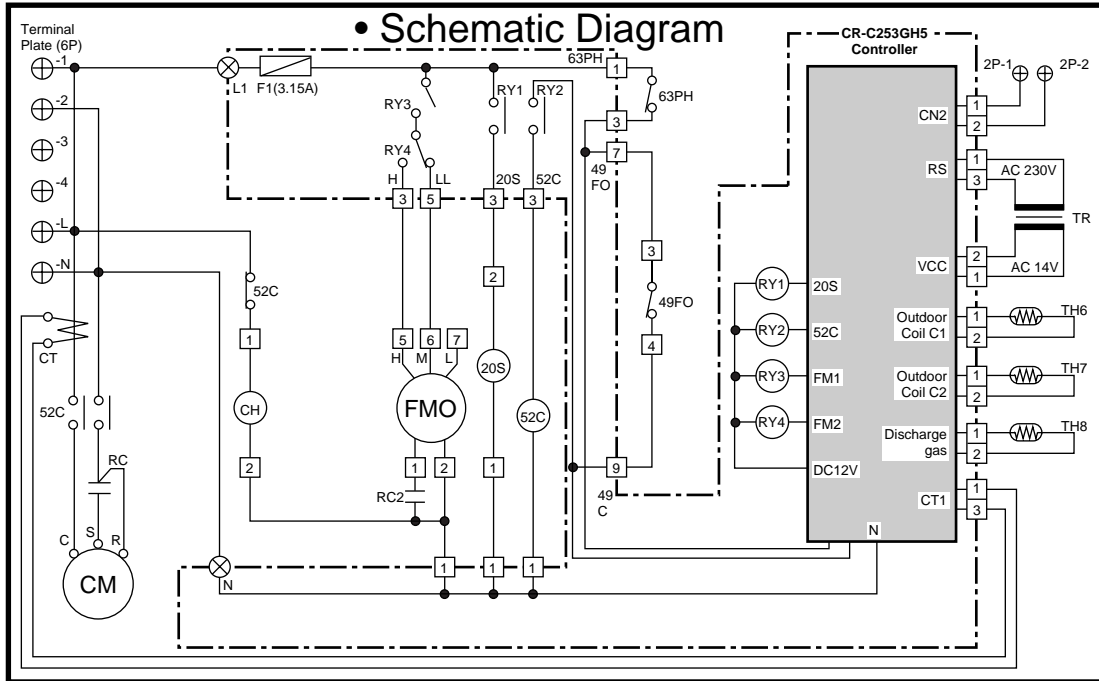
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# 10. ELECTRIC WIRING DIAGRAMS 10 – (2)

## 10 – (2) Outdoor Unit

### ① SPW-C253GH5



Symbols	Description	Symbols	Description
CM	Compressor Motor	CR-C253GH5	Outdoor Controller
FMO	Outdoor Fan Motor	RY1~4	Auxiliary Relay
52C	Compressor Motor Magnetic Contactor	⊕	Terminal Plate
49FO	Outdoor Fan Motor Thermal Protector	⊗	Terminal
63PH	High Pressure Switch	□	Connector
CT	Current Transmitter		
RC,RC2	Running Capacitor		
TR	Power Transformer		
CH	Crank Case Heater		
20S	Four Way Valve		
F1	Fuse		
TH6	Thermistor (Outdoor Coil C1)		
TH7	Thermistor (Outdoor Coil C2)		
TH8	Thermistor (Discharge Gas)		

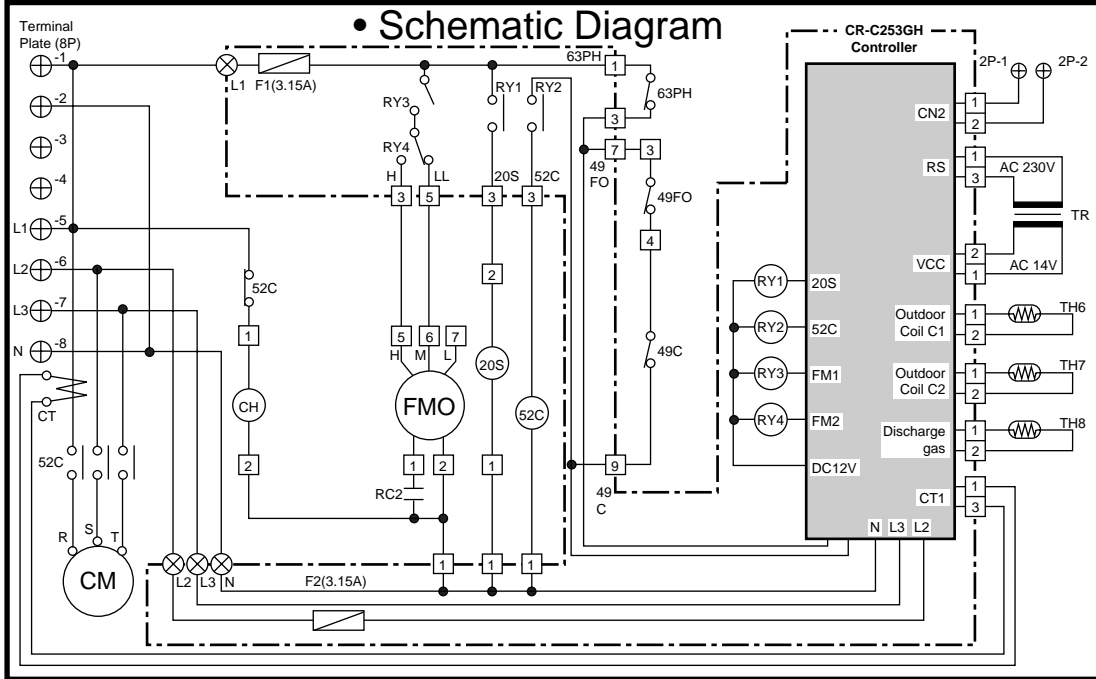
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# 10. ELECTRIC WIRING DIAGRAMS 10 – (2)

## 10 – (2) Outdoor Unit

### ② SPW-C253GH8



Symbols	Description	Symbols	Description
CM	Compressor Motor	CR-C253GH	Outdoor Controller
FMO	Outdoor Fan Motor	RY1~4	Auxiliary Relay
52C	Compressor Motor Magnetic Contactor	⊕	Terminal Plate
49C	Compressor Motor Thermal Protector	⊗	Terminal
49FO	Outdoor Fan Motor Thermal Protector	□	Connector
63PH	High Pressure Switch		
CT	Current Transmitter		
RC2	Running Capacitor		
TR	Power Transformer		
CH	Crank Case Heater		
20S	Four Way Valve		
F1,2	Fuse		
TH6	Thermistor (Outdoor Coil C1)		
TH7	Thermistor (Outdoor Coil C2)		
TH8	Thermistor (Discharge Gas)		

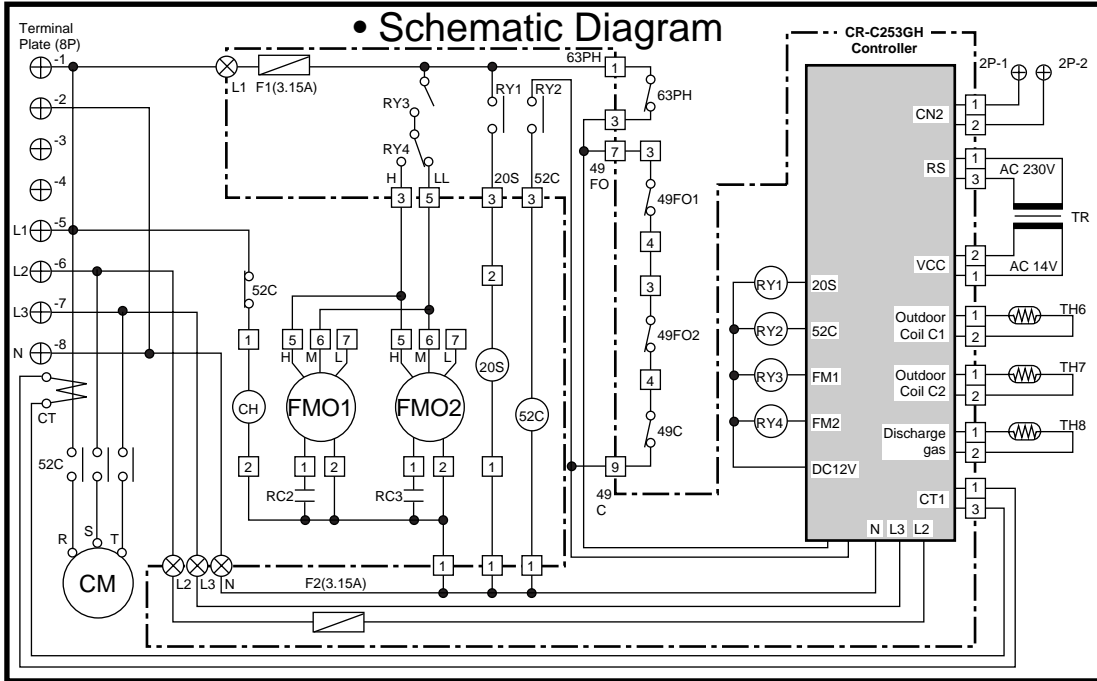
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# 10. ELECTRIC WIRING DIAGRAMS 10 – (2)

## 10 – (2) Outdoor Unit

### ③ SPW-C363GH8



Symbols	Description	Symbols	Description
CM	Compressor Motor	CR-C253GH	Outdoor Controller
FMO1,2	Outdoor Fan Motor	RY1~4	Auxiliary Relay
52C	Compressor Motor Magnetic Contactor	⊕	Terminal Plate
49C	Compressor Motor Thermal Protector	⊗	Terminal
49FO1,2	Outdoor Fan Motor Thermal Protector	□	Connector
63PH	High Pressure Switch		
CT	Current Transmitter		
RC2,3	Running Capacitor		
TR	Power Transformer		
CH	Crank Case Heater		
20S	Four Way Valve		
F1,2	Fuse		
TH6	Thermistor (Outdoor Coil C1)		
TH7	Thermistor (Outdoor Coil C2)		
TH8	Thermistor (Discharge Gas)		

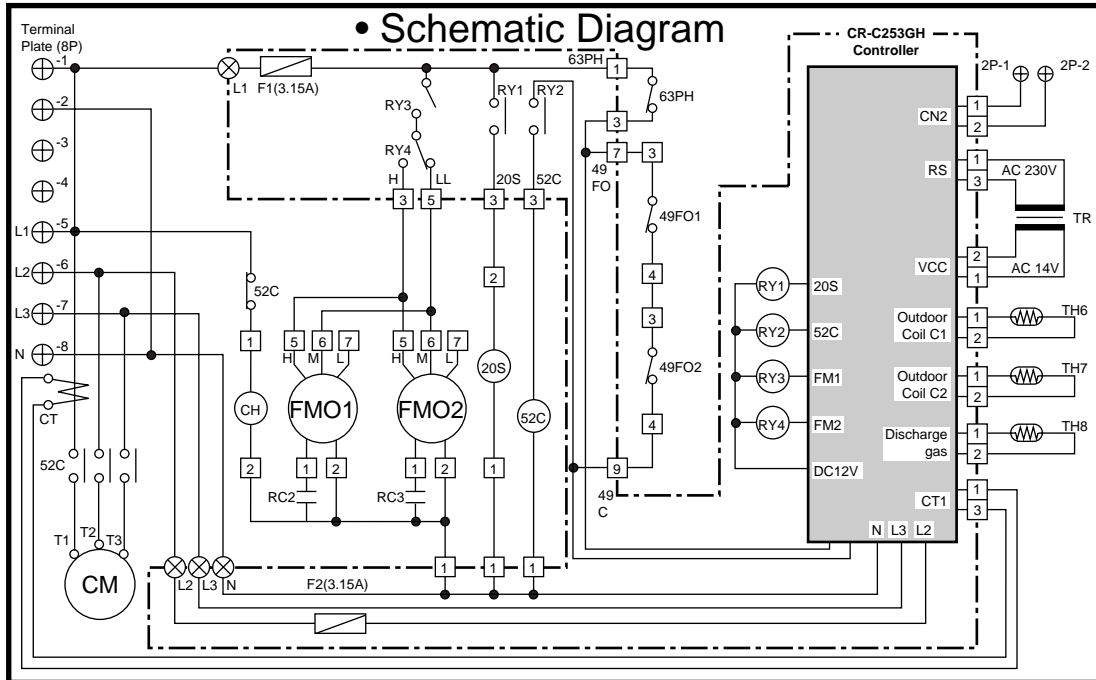
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# 10. ELECTRIC WIRING DIAGRAMS 10 – (2)

## 10 – (2) Outdoor Unit

### ④ SPW-C483GH8



Symbols	Description	Symbols	Description
CM	Compressor Motor	CR-C253GH	Outdoor Controller
FMO1,2	Outdoor Fan Motor	RY1~4	Auxiliary Relay
52C	Compressor Motor Magnetic Contactor	⊕	Terminal Plate
49FO1,2	Outdoor Fan Motor Thermal Protector	⊗	Terminal
63PH	High Pressure Switch	□	Connector
CT	Current Transmitter		
RC2,3	Running Capacitor		
TR	Power Transformer		
CH	Crank Case Heater		
20S	Four Way Valve		
F1,2	Fuse		
TH6	Thermistor (Outdoor Coil C1)		
TH7	Thermistor (Outdoor Coil C2)		
TH8	Thermistor (Discharge Gas)		

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# 11. INDOOR FAN PERFORMANCE

## How to Read the Diagram

The vertical axis is the EXTERNAL STATIC PRESSURE (mmAq) while the horizontal axis represents the AIR FLOW (m<sup>3</sup>/min). The characteristic curve for the “H”, “Med”, and “Lo” fan speed control.

The name plate values are shown based on the “H” air flow. Therefore in the case of the 25 type the flow is 23 m<sup>3</sup>/min while the EXTERNAL STATIC PRESSURE is 19 mmAq at “H” position. If the external static pressure is too great (due to long extension of duct, for example), the air flow volume may drop too low at each air outlet.

**25 Type**

**36 Type**

**48 Type**

