

# DC Inverter Series

## Concealed Ducted Split System



50Hz / 60Hz

R-410A  
REFRIGERANT



Nominal Range 1.5 TR to 5 TR  
( 6 kW to 18 kW)



CE

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## Legend

The following legends are used throughout this manual:

AFR .....Air Flow Rate	OD .....Outside Diameter
cfm ..... Cubic feet per minute	Ph .....Phase
dB ..... Decibels	Pa .....Pascals
DB .....Dry Bulb	SC .....Sensible Capacity
WB .....Wet Bulb	TC .....Total Capacity
Hz ..... Hertz	TR ..... Tons of refrigeration = 12 MBH
kW .....Kilowatts	V .....Volts
kg ..... Kilograms	
kPa ..... Kilo Pascals	
EER.....Energy Efficiency Ratio	
lbs .....Pounds weight (British units)	
l/s .....Liters per second	
Mbh ..... 1000 Btuh	



**SKM reserves the right to change, in part or in whole the specifications of its Air Conditioning Equipment at any time in order to add the latest technology. Therefore, the enclosed information may change without any prior notice.**

## Introduction

The Ducted Split system from SKM consists of RXH (a high efficiency- Side discharge Condensing Unit); matching with DDP (a low noise, ceiling suspended indoor fan coil unit). This split systems are ideally suited for apartments, houses, offices, shops, small residences, and in small commercial establishments.

SKM DC Inverter ducted split system are available in different models covering the range of 1.5 TR to 5 TR (6 kW to 18 kW) at nominal AHRI 210/240, ISO 13253 (T3) and MEW-R-6 (T4) conditions, which make them ideally suited for a very small foot print for space saving and a pleasant exterior appearance.

SKM ducted split units are suitable to operate in a wide range of ambient temperatures. (Minimum Outdoor operating ambient in cooling mode is 55°F (13°C), maximum is 129.2°F (54°C)).

SKM ducted split units are internally wired and all that required to be done on site is ducting, refrigerant piping, power supply and suitable room thermostat installation and field wiring, which reduces the installation work and consequently keeps to a minimum cost.

SKM provides qualified service and stock of replacement parts in all major cities of the G.C.C. countries, Egypt, Jordan, and Pakistan.

SKM Air Conditioning LLC

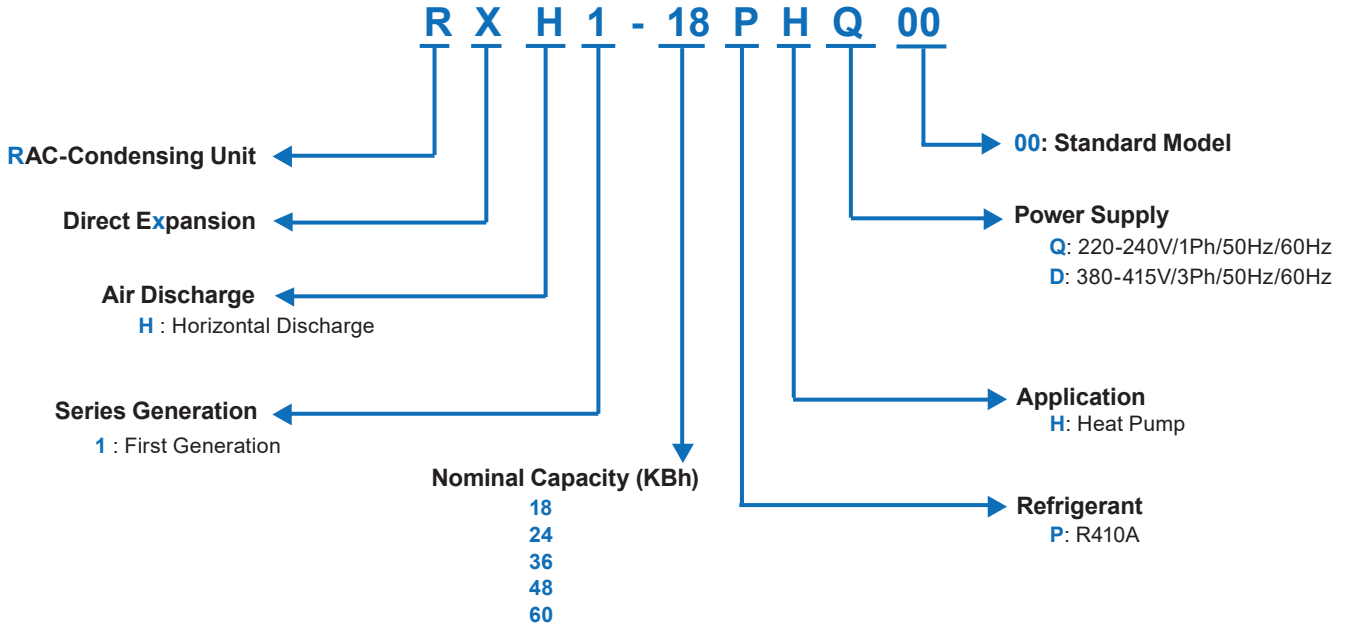


*You name it....We cool it*

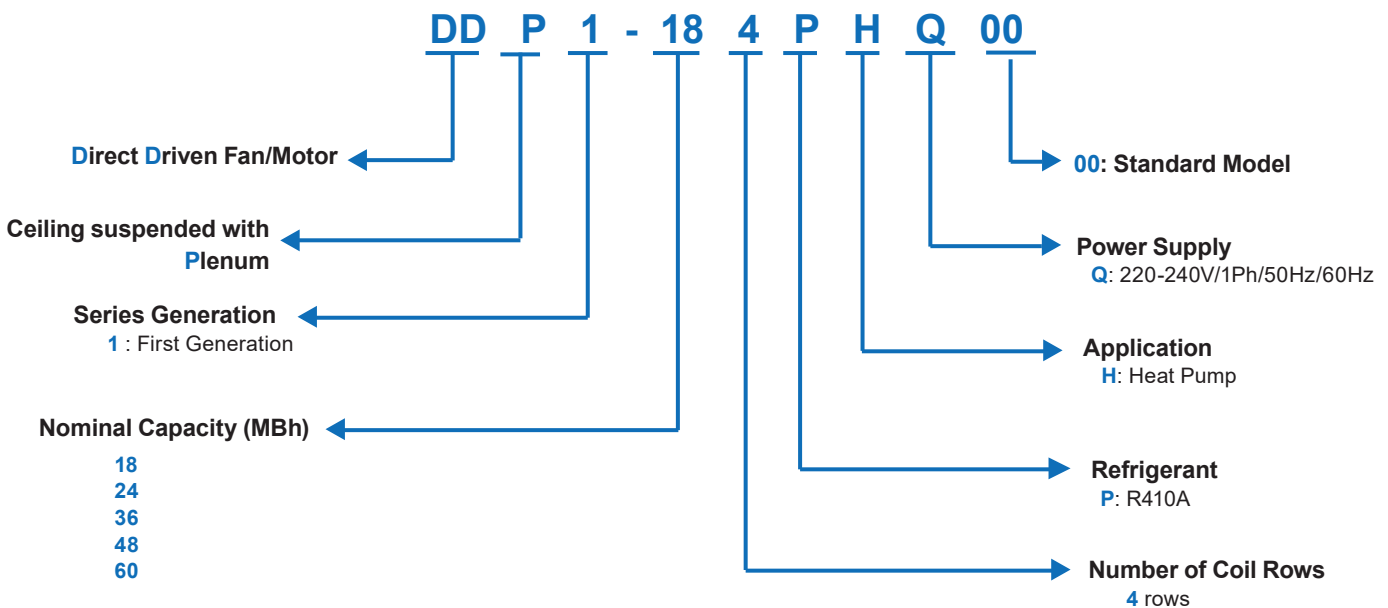


## Nomenclature

### Ducted Nomenclature - Outdoor



### Ducted Nomenclature - Indoor



## Outdoor Unit - RXH

### Design Features:

- **Design** - Outdoor condensing units are ideal for rooftop, ground and wall mounted installation. The Units have a pleasant exterior appearance and have a small footprint for space saving installation.
- **High efficiency Coils** - inner groove tubes; mechanically bonded to hi-efficiency aluminium fins to match for a maximum efficiency. Pre-coated Fins is Optional.
- **Hermetic Rotary DC Compressor** - High efficiency hermetically sealed Rotary type compressor located on engineered mounts for safe, quiet and vibration free operation. Compressors are selected for reliability & High power efficiency.
- **Cabinet Construction** - Heavy gauge zinc clad steel, latest technology electrostatic powder baked finish to ensure a long lasting, durable cabinet.
- **Fan Motor** – Condenser fan is propeller type with plastic blades and driven by a DC electric motors.
- **Service Valves** – Factory installed service valve with sweat connections to provide quick and accurate installation for start-up and servicing.
- **Ease of Service and Installation** – Designed to make servicing easier for the contractor, access panels are provided for all controls and the compressor from the side of the unit.
- **High and Low Pressure Protection** - To protect the compressor against high discharge pressure and low suction pressure, and to guarantee safe operation of compressor (36K - 60K Models).



## Specification (Outdoor Unit RXH)

Model		RXH1-18PHQ00	RXH1-24PHQ00	RXH1-36PHQ00	RXH1-48PHD00	RXH1-60PHD00	
Power supply	V-ph-Hz	220-240~1-50/60	220-240~1-50/60	220-240~1-50/60	380-415~3-50/60	380-415~3-50/60	
Max. input consumption	W	2200	2700	4300	6200	7000	
Max. input current	A	11	13.2	19.8	11	12.5	
Compressor	Type	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	
	Rated current(RLA)	A	8.16	9.00	5.1	7.0	
	Thermal protector position	INTERNAL	INTERNAL	INTERNAL	INTERNAL	INTERNAL	
Outdoor fan motor	Type	DC	DC	DC	DC	DC	
	Qty	1	1	1	2	2	
	Input	W	115	150	150	126	
	Speed	r/min	800/650/550	810/700/450	950/850/750	850/750/650	850/750/650
Outdoor coil	Number of rows	2.5	2	3	2.6	3	
	Fin spacing	mm	1.4	1.4	1.4	1.4	
	Fin type	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	
	Tube outside dia.and type	mm	Φ7.innergroove tube	Φ7.innergroove tube	Φ7.innergroove tube	Φ7.innergroove tube	Φ7.innergroove tube
Outdoor noise level (sound pressure)	dB(A)	59	59	61	65	65	
Outdoor unit	Dimension(WxDxH)	mm	845x363x702	946x410x810	946x410x810	952x415x1333	952x415x1333
	Packing(WxDxH)	mm	965x395x765	1090x500x875	1090x500x875	1095x495x1480	1095x495x1480
	Net/Gross weight	kg	41.2/44.7	55.3/61.7	66.5/71.9	94/107.2	97.3/110.3
Refrigerant	Type	R410A	R410A	R410A	R410A	R410A	
	Charged volume	kg	1.75	2.12	3.2	4.2	4.4
Design pressure	MPa	4.8/1.5	4.8/1.5	4.8/1.5	4.8/1.5	4.8/1.5	
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ22(3/8"/7/8")
	Max. pipe length	m	25	25	30	50	50
	Max. difference in level	m	15	15	20	30	30
Ambient temperature	Cooling	°C	18-54	18-54	18-54	18-54	18-54
	Heating	°C	-7-24	-7-24	-7-24	-7-24	-7-24

Table 1

### Note:

1. The above design and specifications are subject to change without prior notice for product improvement.
2. The values given in the table for the noise level reflect the levels in anechoic chamber.



## Indoor Unit - DDP

### Design Features

- High efficiency coil with high efficiency wavy corrugated fins.
- Slim concealed indoor unit design with low noise fans.
- High efficiency, low power consumption DC electric motor.
- High efficiency forward curved fan for quiet operation.
- Expanded Polystyrene (EPS) drain pan.
- Flare Type Connection for easy copper piping installation.
- Easy wiring / electrical and piping connections.
- Evaporator coils equipped with copper tubes and aluminium fins which give high capacity sensible and latent cooling capabilities.
- Optional BMS connectivity and professional central control solutions.
- Optional air inlet from rear and bottom for 18K - 36K models.
- Constant air volume control.



### Specification (Indoor Unit DDP Matched with Outdoor Unit RXH)

Model			DDP1-184PHQ00	DDP1-243PHQ00	DDP1-364PHQ00	DDP1-484PHQ00	DDP1-603PHQ00
Power supply		V,Hz,Ph	220~240,50/60,1	220~240,50/60,1	220~240,50/60,1	220~240,50/60,1	220~240,50/60,1
Indoor fan motor	Type		DC	DC	DC	DC	DC
	Qty		1	1	1	1	1
	Input	W	90	90	250	560	560
	Speed(Hi/Med/Lo)	r/min	1370/1240/1090	940/870/760	930/840/770	1020/920/840	970/890/800
Indoor coil	Number of rows		4	3	4	4	4
	Fin spacing	mm	1.4	1.4	1.5	1.5	1.5
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube	Φ7,innergroove tube	Φ9.52, innergroove tube	Φ9.52,innergroove tube
Indoor air flow (Hi/Med/Lo) (under rated ESP)		m <sup>3</sup> /h	1030/890/715	1360/1190/930	2250/1900/1600	2970/2510/2130	3360/2940/2470
ESP	Rated	Pa	25	25	37	50	50
	Range	Pa	0-80	0-100	0-120	0-160	0-160
Indoor noise level (Hi/Med/Lo) (under rated ESP)		dB(A)	46/43/39	42/40/36	50/48/43	49/47/44	51/48/45
Indoor unit	Dimension (WxDxH)	mm	880x674x210	1100x774x249	1200x874x300	1200x625x380	1400x858x440
	Packing(WxDxH)	mm	1070x725x270	1305x805x305	1405x915x355	1485x675x450	1605x910x505
	Net/Gross weight	kg	25.2/30.9	30.2/37.4	42.8/51	55.9/63.7	72.7/84.3
Design pressure		MPa	4.8/1.5	4.8/1.5	4.8/1.5	4.8/1.5	4.8/1.5
Drainage water pipe diameter		mm	ODΦ25	ODΦ25	ODΦ25	ODΦ25	ODΦ25
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ22(3/8"/7/8")
Controller			Wired control	Wired control	Wired control	Wired control	Wired control
Operation temperature		°C	17~30	17~30	17~30	17~30	17~30

Table 2

#### Note:

1. The above design and specifications are subject to change without prior notice for product improvement.
2. The values given in the table for the noise level reflect the levels in anechoic chamber.

## Performance Table:

Model		DDP1-184PHQ00	DDP1-243PHQ00	DDP1-364PHQ00	DDP1-484PHQ00	DDP1-603PHQ00	
Cooling (T1)	Capacity	Btu/h	18000(5400-20700)	23600(7100-27000)	33800(10500-39000)	44600(18000-51000)	54000(21000-61000)
	Input	W	1500	1983	2828	3748	4538
	Current	A	7.41	9.74	12.43	6.40	7.48
	COP	W/W	3.56	3.49	3.50	3.49	3.51
	EER	Btu/h.W	12.00	11.90	11.95	11.90	11.90
Cooling (T3)	Capacity	Btu/h	16200	20000	31200	42600	48600
	Input	W	1851	2339	3628	4925	5651
	Current	A	<b>8.84</b>	<b>11.14</b>	<b>15.90</b>	<b>8.21</b>	<b>9.09</b>
	COP	W/W	2.69	2.57	2.60	2.59	2.54
	EER	Btu/h.W	<b>8.75</b>	<b>8.55</b>	<b>8.60</b>	<b>8.65</b>	<b>8.60</b>
Cooling (T4)	Capacity	Btu/h	14400	14900	29200	37200	44900
	Input	W	1795	1858	3627	4620	5577
	Current	A	<b>7.55</b>	<b>7.86</b>	<b>15.27</b>	<b>8.35</b>	<b>8.55</b>
	EER	kW/TR	1.50	1.50	1.49	1.49	1.49
		Btu/h.W	8.02	8.02	8.05	8.05	8.05
Heating (H1)	Capacity	W	5750	8200	9900	15200	16450
	Input	W	1533	2247	2676	3948	4329
	Current	A	7.06	10.36	11.76	6.74	7.14
	COP	W/W	3.75	3.65	3.70	3.85	3.80

Table 3

### Notes:

1. The design conditions performance values at T1 are based on ISO 13523 (2011) testing standard with evaporator air entering of 80°F/67°F (26.6°C/19.4°C) DB/WB temperature and at 95°F (35°C) outside air DB temperature.
2. The design conditions performance values at T3 are based on ISO 13523 (2011) testing standard with evaporator air entering of 84.2°F/66.2°F (29°C/19°C) DB/WB temperature and at 114.8°F (46°C) outside air DB temperature.
3. The design conditions performance values at T4 are based on ISO 13523 (2011) testing standard with evaporator air entering of 80°F/67°F (26.6°C/19.4°C) DB/WB temperature and at 118.4°F (48°C) outside air DB temperature.
4. The design conditions performance values at H1 are based on ISO 13523 (2011) testing standard with evaporator air entering of 68°F(20°C) DB temperature and at 44.6°F/42.8°F (7°C/6°C) outside air DB/WB temperature.













## Combination Ratings - DDP with RXH Units (Heat Pump)

### RXH 18 + DDP 18

DDP1-184PHQ00 + RXH1-18PHQ00									
INDOOR AIRFLOW (CMH)/(CFM)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB (°C)/(°F)	Indoor Conditions DB (°C)/(°F)							
		16 (60.8)		20 (68)		22 (71.6)		24 (75.2)	
		TC	PI	TC	PI	TC	PI	TC	PI
716 (421)	-7 (19.4)	4.6	1.55	4.5	1.6	4.6	1.6	4.5	1.61
	-5.6 (21.9)	4.6	1.53	4.6	1.56	4.6	1.58	4.5	1.59
	-2.8 (27)	4.7	1.5	4.7	1.53	4.7	1.55	4.6	1.56
	0 (32)	4.8	1.48	4.7	1.5	4.7	1.52	4.7	1.53
	2.8 (37)	5	1.46	5	1.49	4.9	1.5	4.9	1.52
	5.6 (42.1)	5.4	1.45	5.3	1.48	5.3	1.49	5.2	1.5
	7 (44.6)	5.7	1.45	5.7	1.47	5.6	1.49	5.6	1.5
	11.1 (52)	6.1	1.42	6	1.44	5.9	1.45	5.9	1.47
	13.9 (57)	6.3	1.4	6.2	1.42	6.2	1.43	6.1	1.44
	16.7 (62)	6.5	1.38	6.4	1.4	6.4	1.41	6.3	1.42
18 (64.4)	6.6	1.37	6.5	1.39	6.4	1.4	6.4	1.41	
890 (524)	-7 (19.4)	4.7	1.57	4.6	1.62	4.7	1.62	4.6	1.63
	-5.6 (21.9)	4.7	1.55	4.7	1.58	4.7	1.6	4.6	1.61
	-2.8 (27)	4.8	1.52	4.8	1.55	4.7	1.57	4.7	1.58
	0 (32)	4.9	1.49	4.8	1.52	4.8	1.53	4.7	1.55
	2.8 (37)	5.1	1.48	5	1.5	5	1.52	5	1.53
	5.6 (42.1)	5.5	1.46	5.4	1.49	5.4	1.5	5.4	1.52
	7 (44.6)	5.9	1.46	5.9	1.48	5.7	1.5	5.7	1.51
	11.1 (52)	6.2	1.43	6.1	1.45	6.1	1.46	6	1.47
	13.9 (57)	6.4	1.4	6.3	1.43	6.3	1.44	6.2	1.45
	16.7 (62)	6.6	1.38	6.5	1.4	6.5	1.41	6.4	1.43
18 (64.4)	6.7	1.37	6.6	1.39	6.6	1.4	6.5	1.41	
1038 (611)	-7 (19.4)	4.8	1.59	4.6	1.64	4.7	1.63	4.7	1.65
	-5.6 (21.9)	4.8	1.57	4.7	1.6	4.7	1.61	4.7	1.63
	-2.8 (27)	4.9	1.54	4.8	1.57	4.8	1.58	4.8	1.6
	0 (32)	4.9	1.51	4.9	1.53	4.8	1.55	4.8	1.56
	2.8 (37)	5.2	1.49	5.1	1.52	5	1.53	5	1.54
	5.6 (42.1)	5.6	1.47	5.5	1.5	5.5	1.51	5.4	1.53
	7 (44.6)	5.9	1.47	5.9	1.49	5.8	1.51	5.8	1.52
	11.1 (52)	6.2	1.43	6.2	1.46	6.1	1.47	6.1	1.48
	13.9 (57)	6.5	1.41	6.4	1.43	6.3	1.45	6.3	1.46
	16.7 (62)	6.7	1.39	6.6	1.41	6.6	1.42	6.5	1.43
18 (64.4)	6.8	1.38	6.7	1.4	6.7	1.41	6.6	1.42	

#### Notes:

PI: Total Power Input in kW.

TC: Total Capacity in kW.

Note: The table shows the case where the operation frequency of a compressor is fixed.



## Combination Ratings - DDP with RXH Units (Heat Pump)

### RXH 24 + DDP 24

DDP1-243PHQ00 + RXH1-24PHQ00									
INDOOR AIRFLOW (CMH)/(CFM)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB (°C)/(°F)	Indoor Conditions DB (°C)/(°F)							
		16 (60.8)		20 (68)		22 (71.6)		24 (75.2)	
		TC	PI	TC	PI	TC	PI	TC	PI
716 (421)	-7 (19.4)	6.3	6.1	6.2	6.2	2.52	2.6	2.57	2.59
	-5.6 (21.9)	6.3	6.2	6.2	6.2	2.47	2.51	2.52	2.54
	-2.8 (27)	6.5	6.4	6.4	6.3	2.39	2.42	2.44	2.46
	0 (32)	6.6	6.5	6.5	6.4	2.31	2.34	2.35	2.37
	2.8 (37)	6.9	6.8	6.8	6.7	2.25	2.28	2.29	2.3
	5.6 (42.1)	7.5	7.4	7.4	7.3	2.19	2.22	2.23	2.24
	7 (44.6)	8	8	7.9	7.8	2.17	2.16	2.2	2.21
	11.1 (52)	8.5	8.4	8.3	8.3	2.06	2.08	2.09	2.1
	13.9 (57)	8.9	8.7	8.6	8.6	1.99	2.01	2.02	2.02
	16.7 (62)	9.2	9.1	9	8.9	1.93	1.94	1.94	1.95
18 (64.4)	9.3	9.2	9.1	9.1	1.89	1.9	1.91	1.91	
890 (524)	-7 (19.4)	6.4	6.2	6.3	6.3	2.54	2.62	2.6	2.61
	-5.6 (21.9)	6.4	6.4	6.4	6.3	2.49	2.53	2.55	2.56
	-2.8 (27)	6.7	6.6	6.5	6.5	2.41	2.44	2.46	2.48
	0 (32)	6.7	6.7	6.6	6.6	2.33	2.36	2.38	2.39
	2.8 (37)	7.1	7	6.9	6.9	2.27	2.3	2.31	2.33
	5.6 (42.1)	7.7	7.6	7.5	7.5	2.21	2.24	2.25	2.26
	7 (44.6)	8.2	8.2	8	8	2.19	2.18	2.22	2.23
	11.1 (52)	8.7	8.6	8.5	8.5	2.08	2.1	2.11	2.12
	13.9 (57)	9	8.9	8.9	8.8	2.01	2.03	2.04	2.04
	16.7 (62)	9.4	9.2	9.2	9.1	1.94	1.96	1.96	1.97
18 (64.4)	9.6	9.4	9.3	9.3	1.91	1.92	1.93	1.93	
1038 (611)	-7 (19.4)	6.5	6.3	6.4	6.4	2.56	2.65	2.62	2.64
	-5.6 (21.9)	6.5	6.5	6.4	6.4	2.52	2.55	2.57	2.59
	-2.8 (27)	6.7	6.6	6.6	6.6	2.43	2.47	2.49	2.5
	0 (32)	6.8	6.7	6.7	6.7	2.35	2.38	2.4	2.41
	2.8 (37)	7.2	7.1	7	7	2.29	2.32	2.33	2.35
	5.6 (42.1)	7.8	7.6	7.6	7.6	2.23	2.26	2.27	2.28
	7 (44.6)	8.3	8.3	8.1	8.1	2.21	2.2	2.24	2.25
	11.1 (52)	8.8	8.7	8.6	8.6	2.1	2.12	2.13	2.14
	13.9 (57)	9.1	9	8.9	8.9	2.03	2.05	2.05	2.06
	16.7 (62)	9.5	9.3	9.3	9.2	1.96	1.97	1.98	1.98
18 (64.4)	9.6	9.5	9.4	9.4	1.93	1.94	1.94	1.95	

Notes:

PI: Total Power Input in kW.

TC: Total Capacity in kW.

Note: The table shows the case where the operation frequency of a compressor is fixed.

## Combination Ratings - DDP with RXH Units (Heat Pump)

### RXH 36 + DDP 36

DDP1-364PHQ00 + RXH1-36PHQ00									
INDOOR AIRFLOW (CMH)/(CFM)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB (°C)/(°F)	Indoor Conditions DB (°C)/(°F)							
		16 (60.8)		20 (68)		22 (71.6)		24 (75.2)	
		TC	PI	TC	PI	TC	PI	TC	PI
716 (421)	-7 (19.4)	8.2	3.25	8	3.36	8.1	3.3	8.1	3.32
	-5.6 (21.9)	8.2	3.17	8.1	3.2	8.1	3.21	8	3.23
	-2.8 (27)	8.3	3.02	8.2	3.05	8.1	3.06	8.1	3.07
	0 (32)	8.3	2.88	8.2	2.9	8.1	2.91	8.1	2.92
	2.8 (37)	8.6	2.76	8.5	2.77	8.5	2.78	8.4	2.79
	5.6 (42.1)	9.2	2.64	9.1	2.65	9.1	2.65	9	2.65
	7 (44.6)	9.8	2.58	9.8	2.52	9.6	2.59	9.5	2.59
	11.1 (52)	10.2	2.39	10.1	2.38	10	2.38	10	2.38
	13.9 (57)	10.6	2.25	10.4	2.24	10.3	2.24	10.3	2.23
	16.7 (62)	10.8	2.12	10.7	2.1	10.6	2.1	10.6	2.09
18 (64.4)	11	2.06	10.8	2.04	10.8	2.03	10.7	2.02	
890 (524)	-7 (19.4)	8.4	3.28	8.1	3.39	8.3	3.33	8.2	3.35
	-5.6 (21.9)	8.4	3.2	8.3	3.23	8.2	3.25	8.2	3.26
	-2.8 (27)	8.5	3.05	8.4	3.08	8.3	3.09	8.3	3.11
	0 (32)	8.5	2.91	8.4	2.93	8.3	2.94	8.3	2.95
	2.8 (37)	8.8	2.79	8.7	2.8	8.6	2.81	8.6	2.82
	5.6 (42.1)	9.4	2.67	9.3	2.68	9.2	2.68	9.2	2.68
	7 (44.6)	10	2.61	10	2.55	9.8	2.62	9.7	2.62
	11.1 (52)	10.5	2.41	10.3	2.41	10.2	2.41	10.2	2.41
	13.9 (57)	10.8	2.28	10.6	2.27	10.6	2.27	10.5	2.26
	16.7 (62)	11.1	2.15	10.9	2.13	10.8	2.12	10.8	2.12
18 (64.4)	11.2	2.08	11.1	2.07	11	2.06	10.9	2.05	
1038 (611)	-7 (19.4)	8.5	3.31	8.2	3.43	8.4	3.37	8.3	3.39
	-5.6 (21.9)	8.4	3.23	8.4	3.27	8.3	3.28	8.3	3.3
	-2.8 (27)	8.6	3.09	8.5	3.11	8.4	3.13	8.4	3.14
	0 (32)	8.6	2.94	8.5	2.96	8.4	2.97	8.4	2.98
	2.8 (37)	8.9	2.82	8.8	2.83	8.7	2.84	8.6	2.85
	5.6 (42.1)	9.5	2.7	9.4	2.71	9.3	2.71	9.3	2.72
	7 (44.6)	10.1	2.64	10.1	2.58	9.9	2.65	9.8	2.65
	11.1 (52)	10.6	2.44	10.4	2.44	10.3	2.44	10.3	2.44
	13.9 (57)	10.8	2.31	10.7	2.3	10.6	2.29	10.6	2.29
	16.7 (62)	11.2	2.18	11	2.16	10.9	2.15	10.8	2.14
18 (64.4)	11.3	2.11	11.2	2.09	11.1	2.08	11	2.07	

**Notes:**

PI: Total Power Input in kW.

TC: Total Capacity in kW.

Note: The table shows the case where the operation frequency of a compressor is fixed.



## Combination Ratings - DDP with RXH Units (Heat Pump)

### RXH 48 + DDP 48

DDP1-484PHQ00 + RXH1-48PHD00									
INDOOR AIRFLOW (CMH)/(CFM)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB (°C)/(°F)	Indoor Conditions DB (°C)/(°F)							
		16 (60.8)		20 (68)		22 (71.6)		24 (75.2)	
		TC	PI	TC	PI	TC	PI	TC	PI
716 (421)	-7 (19.4)	13.7	5.21	13.4	5.39	13.5	5.28	13.4	5.3
	-5.6 (21.9)	13.5	5.06	13.4	5.1	13.3	5.13	13.2	5.15
	-2.8 (27)	13.5	4.8	13.3	4.83	13.3	4.85	13.2	4.86
	0 (32)	13.3	4.54	13.2	4.56	13.1	4.57	13	4.58
	2.8 (37)	13.6	4.32	13.4	4.33	13.3	4.33	13.2	4.34
	5.6 (42.1)	14.3	4.1	14.1	4.1	14	4.1	14	4.09
	7 (44.6)	15.1	3.99	14.9	3.86	14.8	3.98	14.7	3.98
	11.1 (52)	15.5	3.64	15.3	3.61	15.2	3.6	15.1	3.59
	13.9 (57)	15.8	3.4	15.5	3.36	15.4	3.34	15.3	3.32
	16.7 (62)	16	3.16	15.8	3.11	15.7	3.08	15.6	3.06
18 (64.4)	16.2	3.04	15.9	2.99	15.8	2.96	15.7	2.93	
890 (524)	-7 (19.4)	13.9	5.26	13.6	5.44	13.7	5.33	13.7	5.35
	-5.6 (21.9)	13.8	5.11	13.6	5.15	13.6	5.17	13.5	5.2
	-2.8 (27)	13.7	4.85	13.6	4.88	13.5	4.9	13.5	4.91
	0 (32)	13.6	4.59	13.4	4.61	13.3	4.62	13.2	4.63
	2.8 (37)	13.9	4.36	13.7	4.37	13.6	4.38	13.5	4.38
	5.6 (42.1)	14.6	4.14	14.4	4.14	14.3	4.14	14.2	4.14
	7 (44.6)	15.4	4.03	15.2	3.9	15.1	4.02	15	4.02
	11.1 (52)	15.8	3.67	15.6	3.65	15.5	3.64	15.4	3.63
	13.9 (57)	16.1	3.43	15.8	3.4	15.7	3.38	15.6	3.36
	16.7 (62)	16.4	3.19	16.1	3.14	16	3.12	15.9	3.1
18 (64.4)	16.5	3.07	16.2	3.02	16.1	2.99	16	2.97	
1038 (611)	-7 (19.4)	14.1	5.31	13.8	5.5	13.9	5.39	13.8	5.41
	-5.6 (21.9)	13.9	5.16	13.8	5.21	13.7	5.23	13.6	5.25
	-2.8 (27)	13.9	4.9	13.7	4.93	13.7	4.95	13.6	4.96
	0 (32)	13.7	4.63	13.5	4.66	13.5	4.67	13.4	4.68
	2.8 (37)	14	4.41	13.8	4.42	13.7	4.42	13.7	4.43
	5.6 (42.1)	14.7	4.18	14.6	4.18	14.4	4.18	14.4	4.18
	7 (44.6)	15.5	4.08	15.4	3.94	15.2	4.06	15.1	4.06
	11.1 (52)	15.9	3.71	15.7	3.69	15.6	3.67	15.5	3.66
	13.9 (57)	16.2	3.47	16	3.43	15.9	3.41	15.8	3.39
	16.7 (62)	16.5	3.22	16.3	3.17	16.1	3.15	16	3.13
18 (64.4)	16.6	3.1	16.4	3.05	16.3	3.02	16.1	3	

**Notes:**

PI: Total Power Input in kW.

TC: Total Capacity in kW.

Note: The table shows the case where the operation frequency of a compressor is fixed.

## Combination Ratings - DDP with RXH Units (Heat Pump)

### RXH 48 + DDP 48

DDP1-604PHQ00 + RXH1-60PHD00									
INDOOR AIRFLOW (CMH)/(CFM)	HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE								
	OUTDOOR DB (°C)/(°F)	Indoor Conditions DB (°C)/(°F)							
		16 (60.8)		20 (68)		22 (71.6)		24 (75.2)	
		TC	PI	TC	PI	TC	PI	TC	PI
716 (421)	-7 (19.4)	11.4	4.16	10.8	4.29	11.2	4.3	11.1	4.35
	-5.6 (21.9)	11.5	4.13	11.4	4.22	11.3	4.27	11.2	4.32
	-2.8 (27)	12.1	4.09	11.9	4.18	11.8	4.23	11.8	4.27
	0 (32)	12.5	4.04	12.3	4.14	12.2	4.18	12.1	4.23
	2.8 (37)	13.4	4.04	13.2	4.14	13.1	4.18	13	4.23
	5.6 (42.1)	14.7	4.04	14.5	4.14	14.4	4.18	14.3	4.23
	7 (44.6)	15.8	4.05	16	4.16	15.5	4.19	15.4	4.24
	11.1 (52)	17.1	4.02	16.9	4.11	16.8	4.16	16.7	4.2
	13.9 (57)	18	4	17.8	4.09	17.6	4.14	17.5	4.18
	16.7 (62)	18.9	3.98	18.6	4.07	18.5	4.11	18.4	4.16
18 (64.4)	19.3	3.97	19.1	4.06	18.9	4.1	18.8	4.15	
890 (524)	-7 (19.4)	11.6	4.2	11	4.34	11.4	4.35	11.3	4.4
	-5.6 (21.9)	11.8	4.17	11.6	4.27	11.5	4.32	11.5	4.36
	-2.8 (27)	12.3	4.13	12.2	4.22	12.1	4.27	12	4.32
	0 (32)	12.7	4.09	12.6	4.18	12.5	4.23	12.4	4.27
	2.8 (37)	13.6	4.09	13.5	4.18	13.4	4.22	13.2	4.27
	5.6 (42.1)	15	4.09	14.8	4.18	14.7	4.22	14.6	4.27
	7 (44.6)	16.1	4.1	16.3	4.2	15.8	4.23	15.7	4.28
	11.1 (52)	17.5	4.06	17.2	4.15	17.1	4.2	17	4.24
	13.9 (57)	18.4	4.04	18.1	4.13	18	4.17	17.9	4.22
	16.7 (62)	19.3	4.02	19	4.11	18.9	4.15	18.8	4.19
18 (64.4)	19.7	4.01	19.4	4.1	19.3	4.14	19.2	4.18	
1038 (611)	-7 (19.4)	11.7	4.25	11.1	4.38	11.5	4.39	11.5	4.44
	-5.6 (21.9)	11.9	4.21	11.7	4.31	11.7	4.36	11.6	4.4
	-2.8 (27)	12.5	4.17	12.3	4.26	12.2	4.31	12.1	4.36
	0 (32)	12.9	4.13	12.7	4.22	12.6	4.27	12.5	4.31
	2.8 (37)	13.8	4.13	13.6	4.22	13.5	4.26	13.4	4.31
	5.6 (42.1)	15.2	4.12	15	4.22	14.9	4.26	14.8	4.31
	7 (44.6)	16.3	4.13	16.5	4.24	16	4.27	15.9	4.32
	11.1 (52)	17.6	4.1	17.4	4.19	17.3	4.24	17.2	4.28
	13.9 (57)	18.6	4.08	18.3	4.17	18.2	4.21	18.1	4.26
	16.7 (62)	19.5	4.06	19.2	4.15	19.1	4.19	19	4.23
18 (64.4)	19.9	4.05	19.6	4.13	19.5	4.18	19.4	4.22	

**Notes:**

PI: Total Power Input in kW.

TC: Total Capacity in kW.

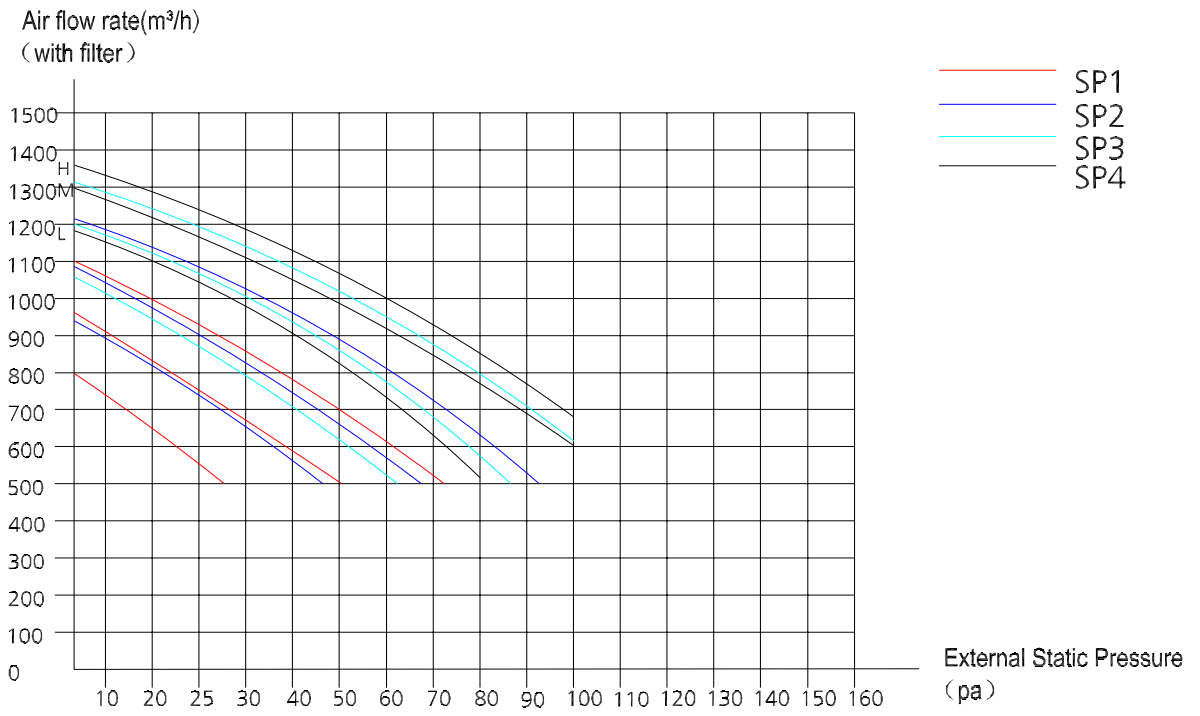
Note: The table shows the case where the operation frequency of a compressor is fixed.



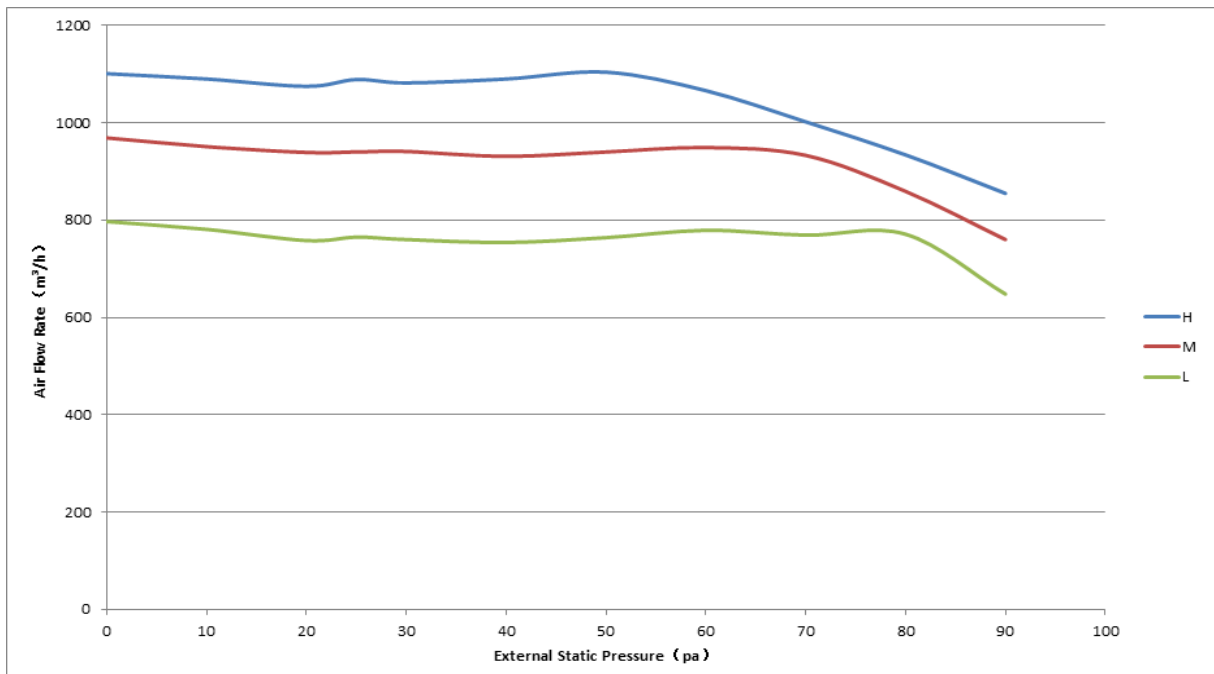


## Fan Performance Curves

DDP 18

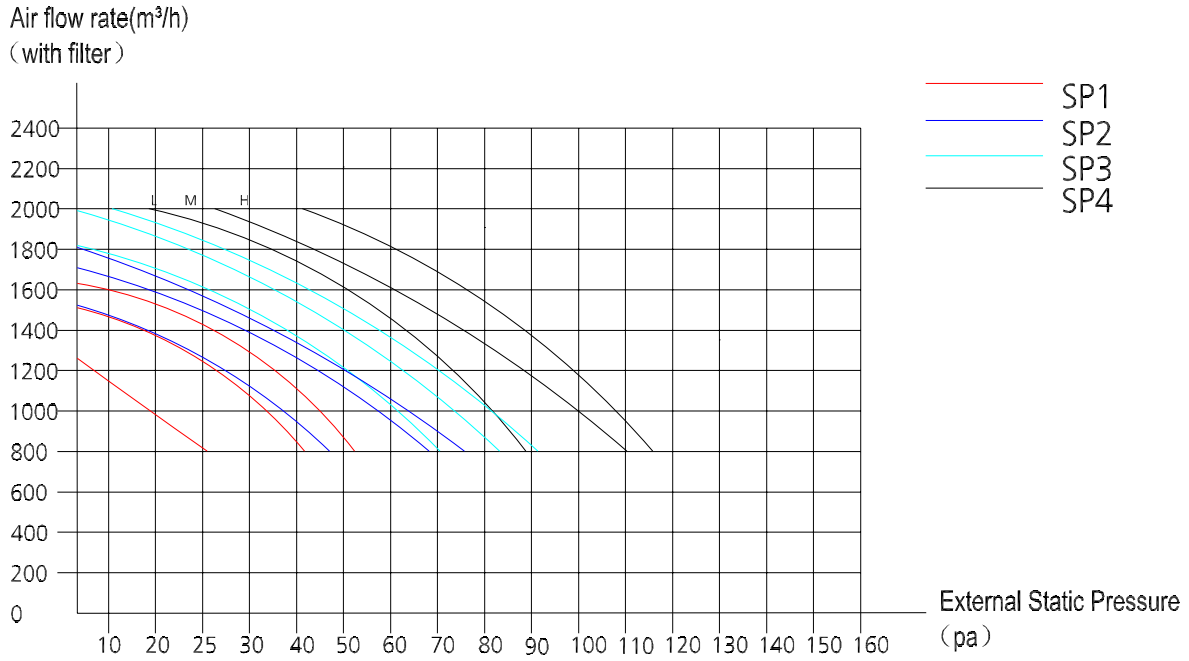


### Constant air volume

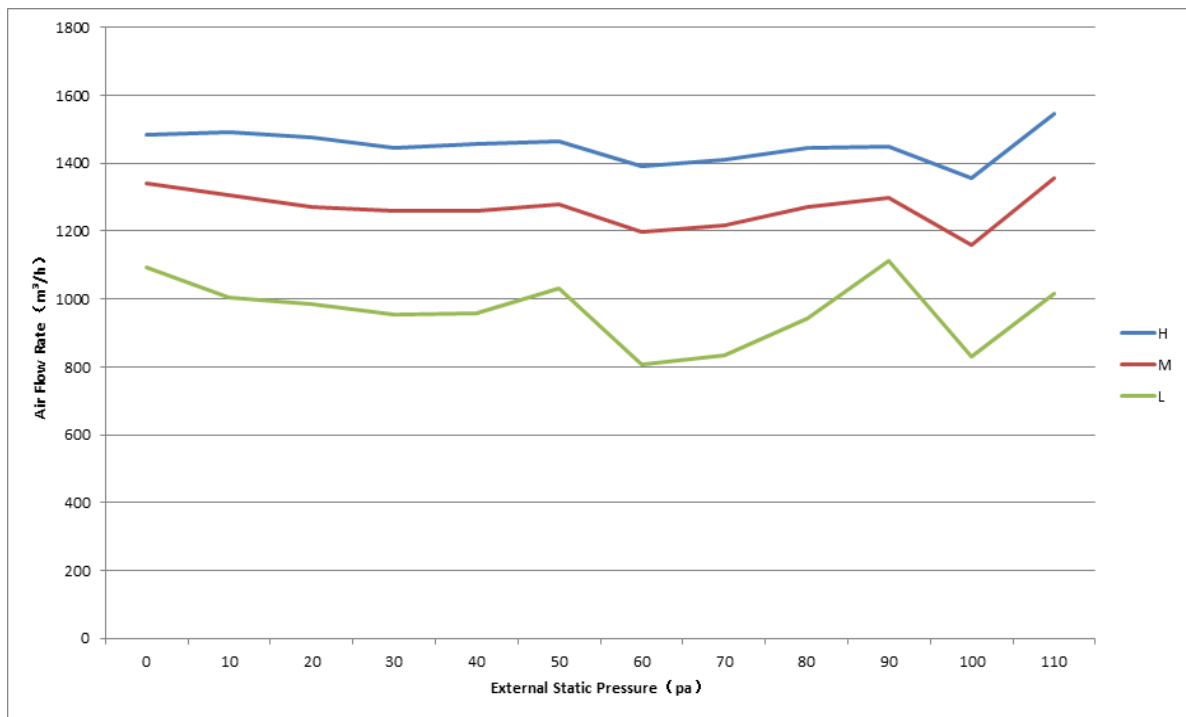


Fan Performance Curves

DDP 24



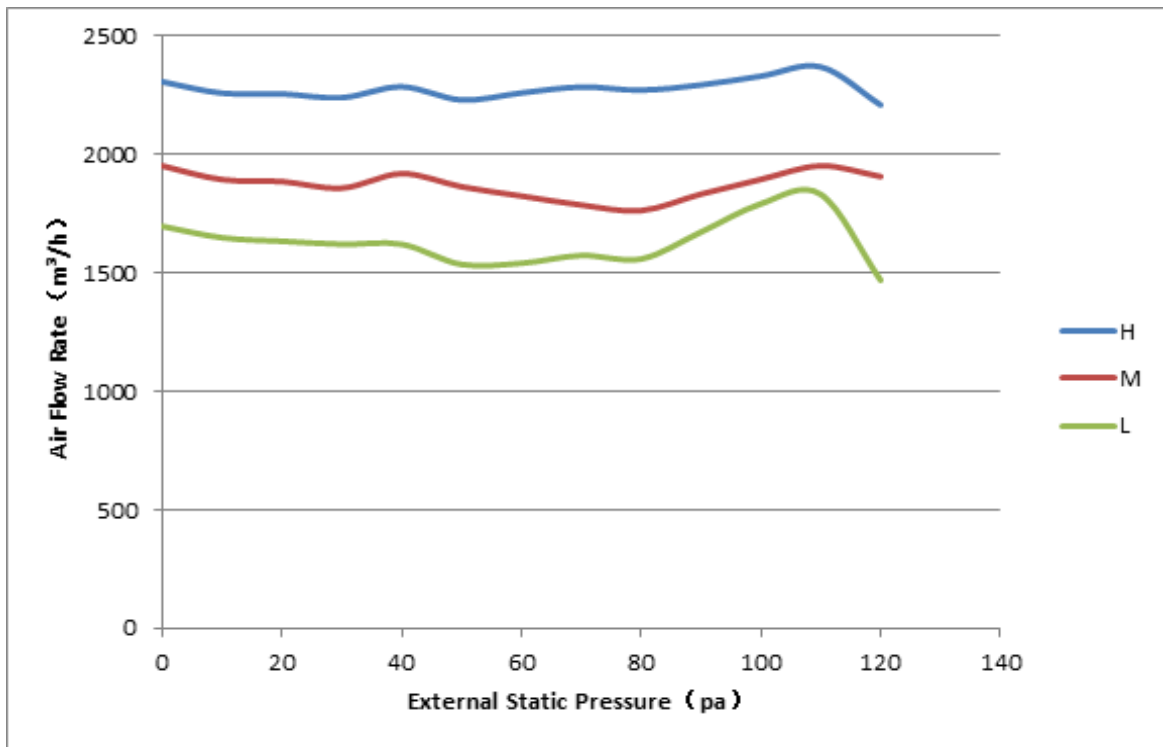
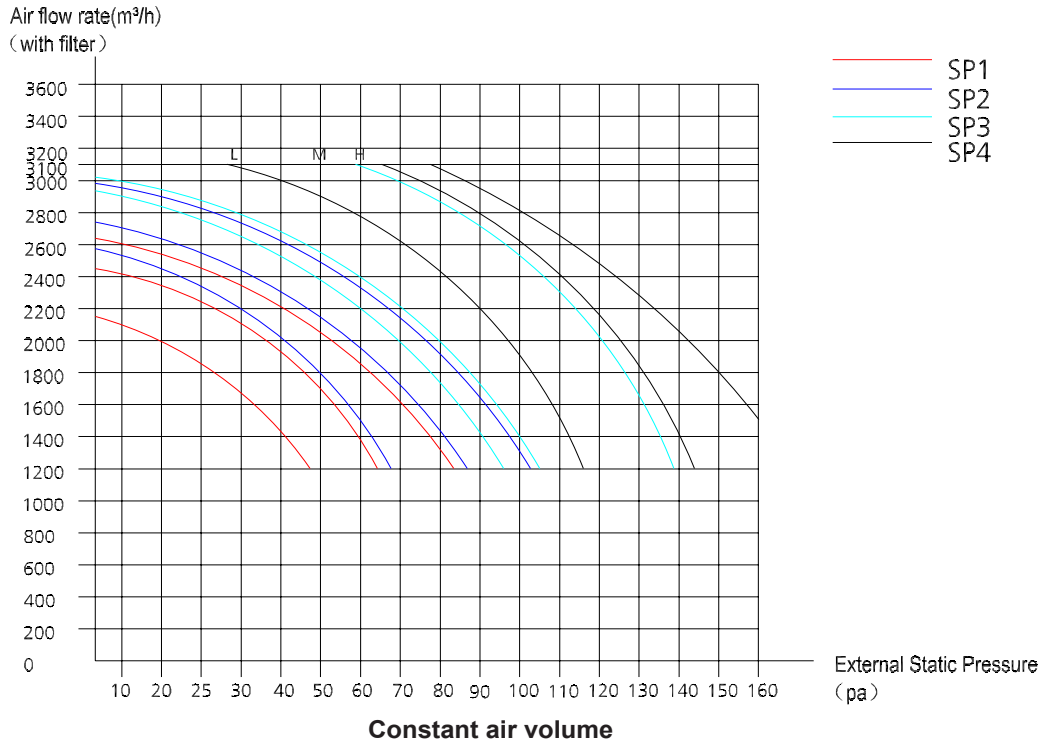
Constant air volume





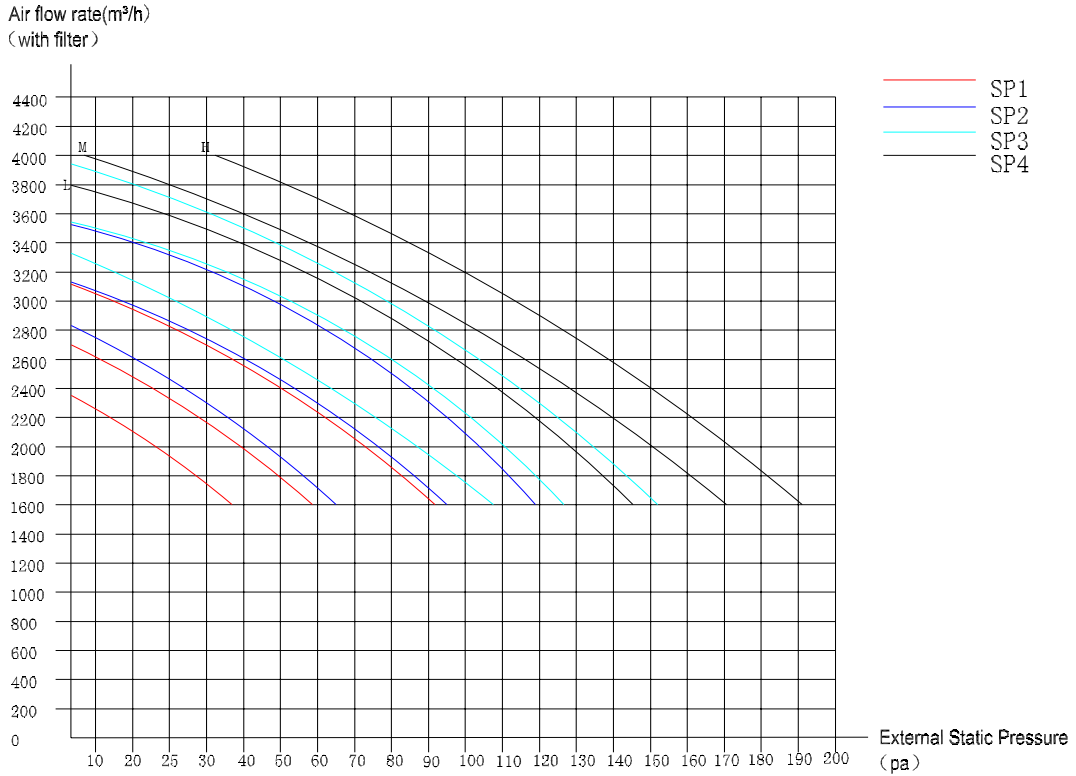
## Fan Performance Curves

DDP 36

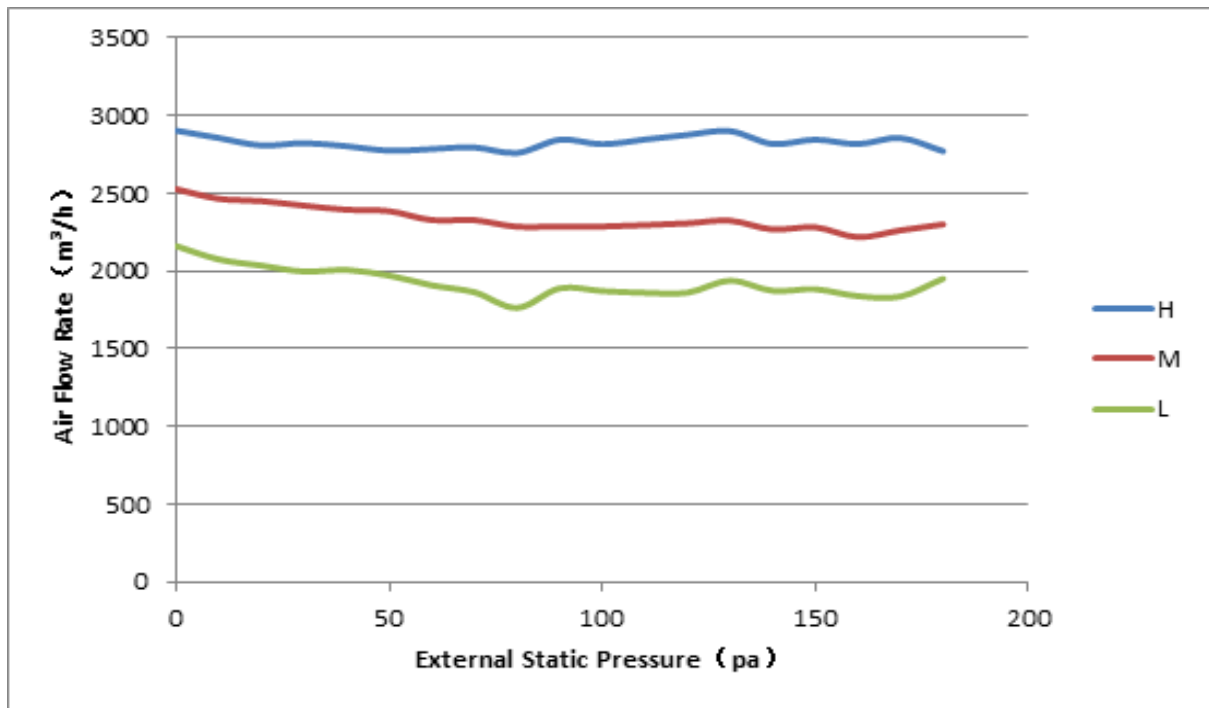


Fan Performance Curves

DDP 48



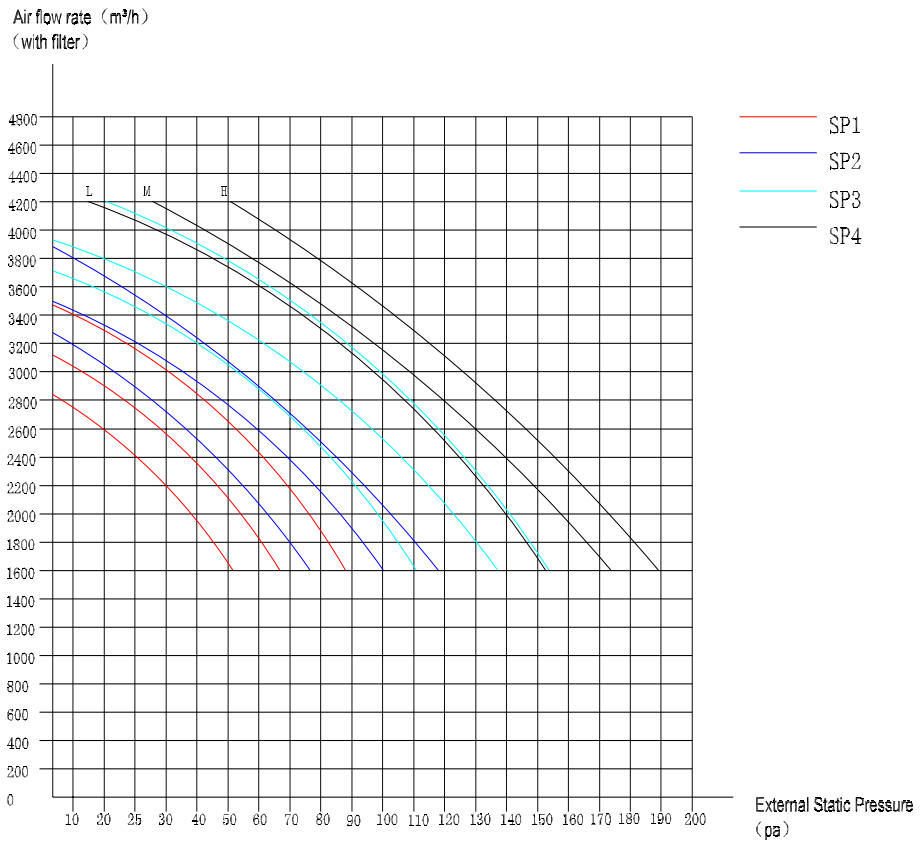
Constant air volume



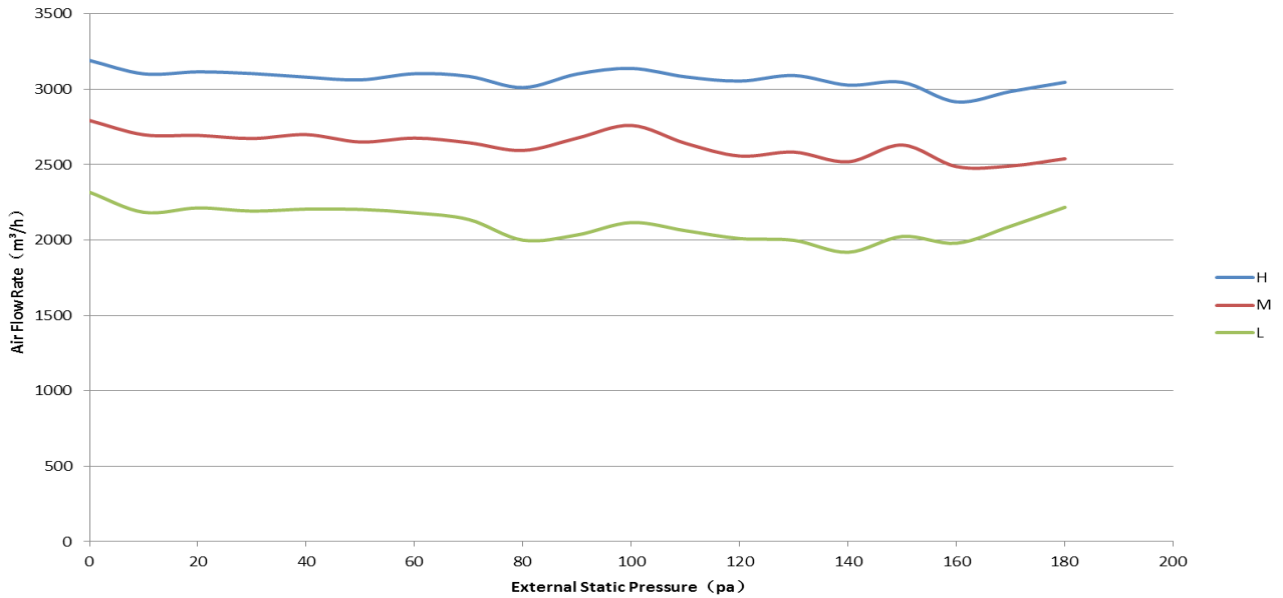


# Fan Performance Curves

## DDP 60



### Constant air volume



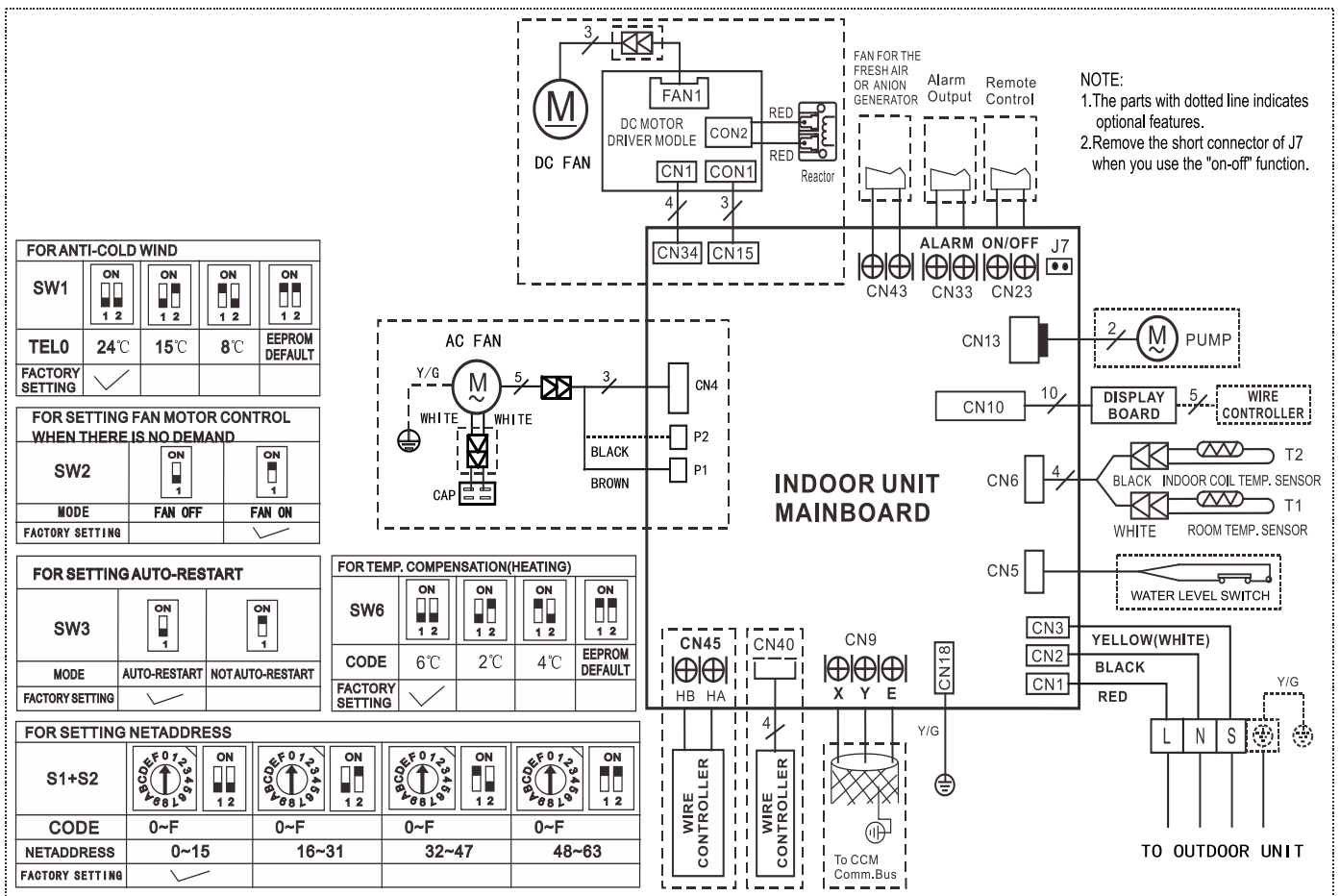
## Electrical Data - RXH & DDP

Model		RXH1-18 & RXH1-24	RXH1-36	RXH1-48 & RXH1-60
Phase		1-phase	1-phase	3-phase
Frequency and Voltage		220-230V, 60Hz	220-230V, 60Hz	380-415V, 60Hz
Circuit Breaker/ Fuse (A)		25/20	40/30	50/40
Outdoor Unit Power Wiring (mm <sup>2</sup> )		3x2.5	3x4.0	5x2.5
Indoor/Outdoor Connecting Wiring (mm <sup>2</sup> )	Strong Electric Signal	4x1.0(4x2.5 with auxiliary electric heater)	4x1.0(4x2.5 with auxiliary electric heater)	4x1.0(4x2.5 with auxiliary electric heater)

## Typical Wiring Diagram - RXH & DDP

### Indoor Units - DDP Models:

DDP1-18, DDP1-24, DDP1-36, DDP1-48 & DDP1-60

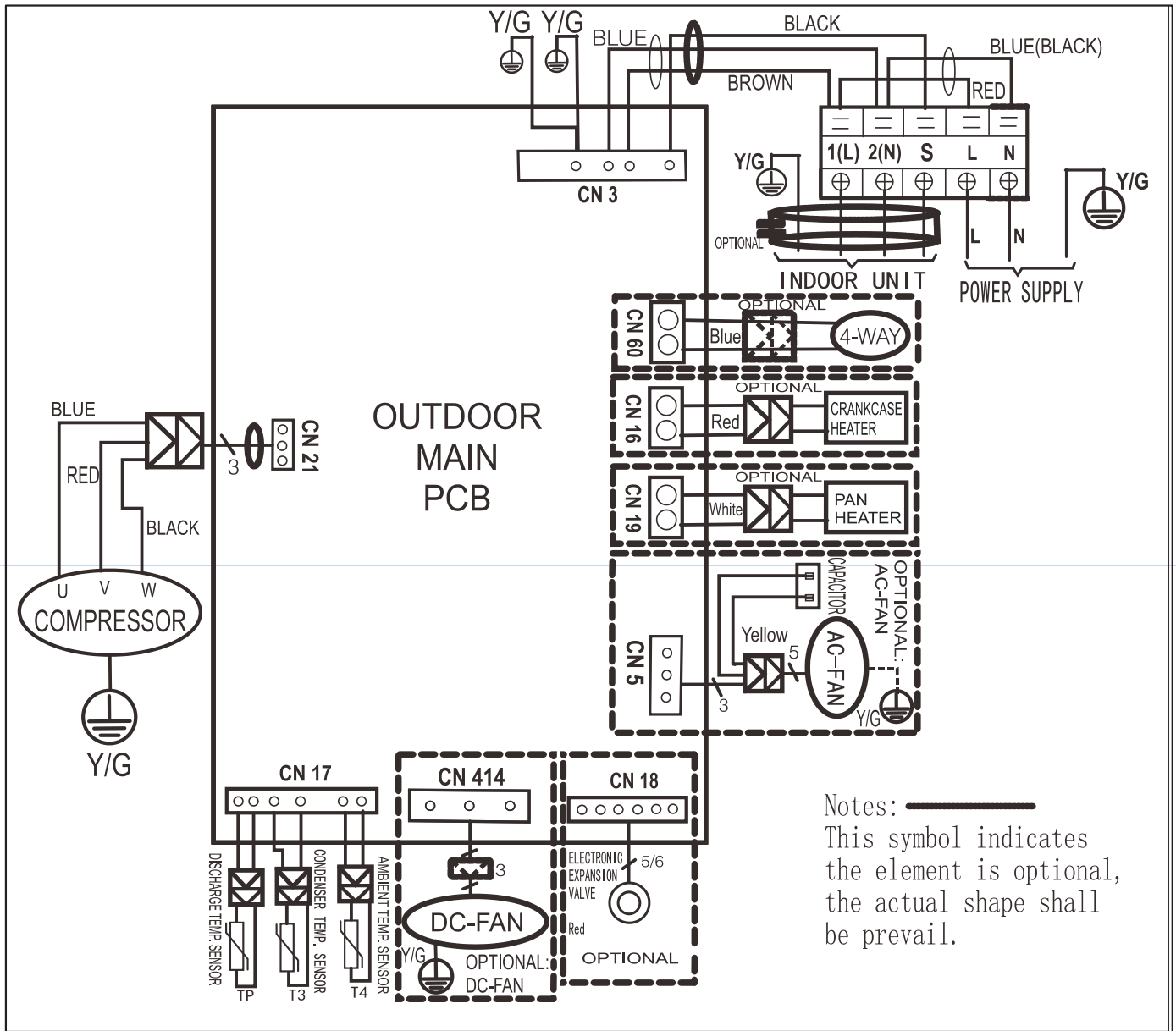




## Typical Wiring Diagram - RXH & DDP

### Outdoor Units - RXH Models:

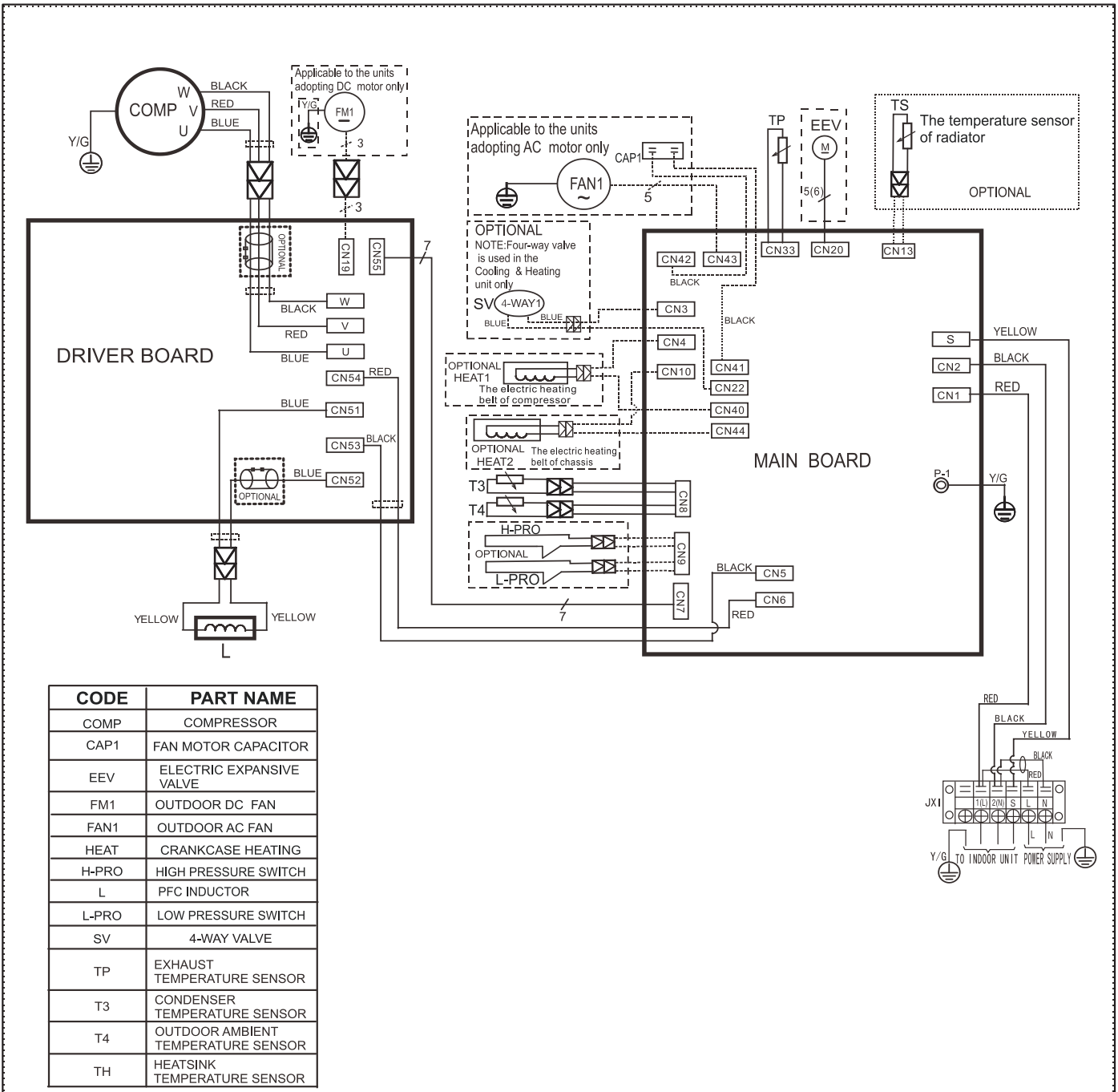
RXH1-18 & RXH1-24



## Typical Wiring Diagram - RXH & DDP

### Outdoor Units - RXH Models:

RXH1-36



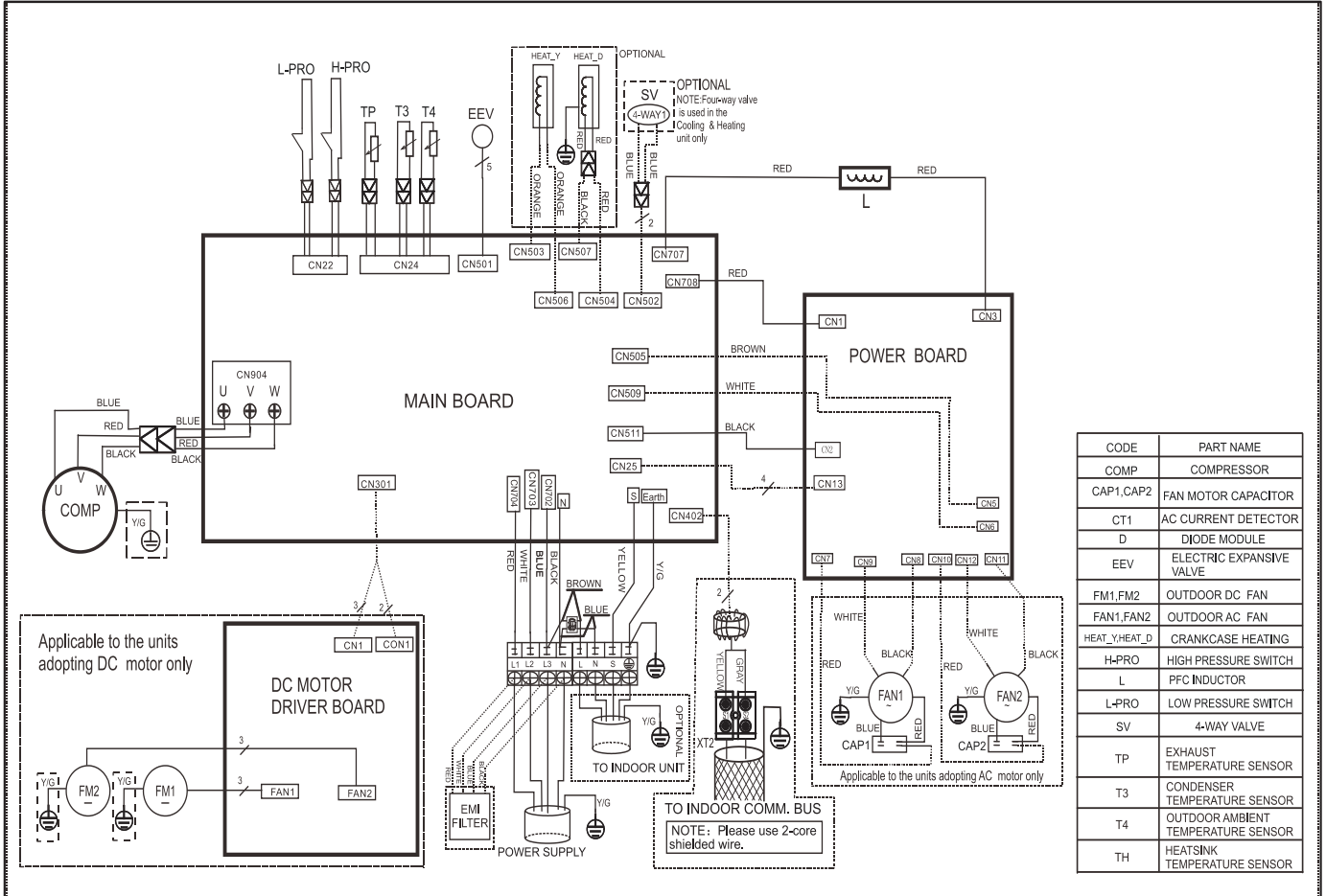




# Typical Wiring Diagram - RXH & DDP

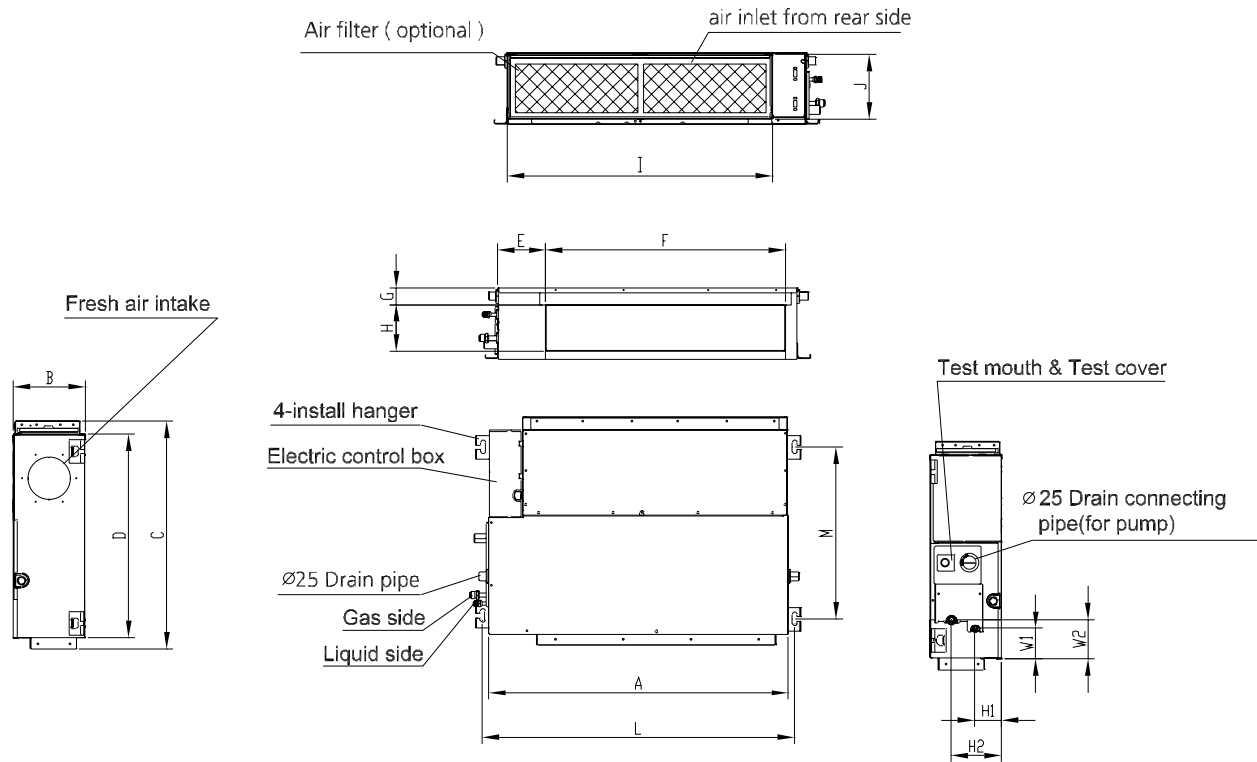
## Outdoor Units - RXH Models:

RXH1-48 & RXH1-60



## Dimensional Data

INDOOR UNITS - DDP Models: DDP1-18, DDP1-24 & DDP1-36

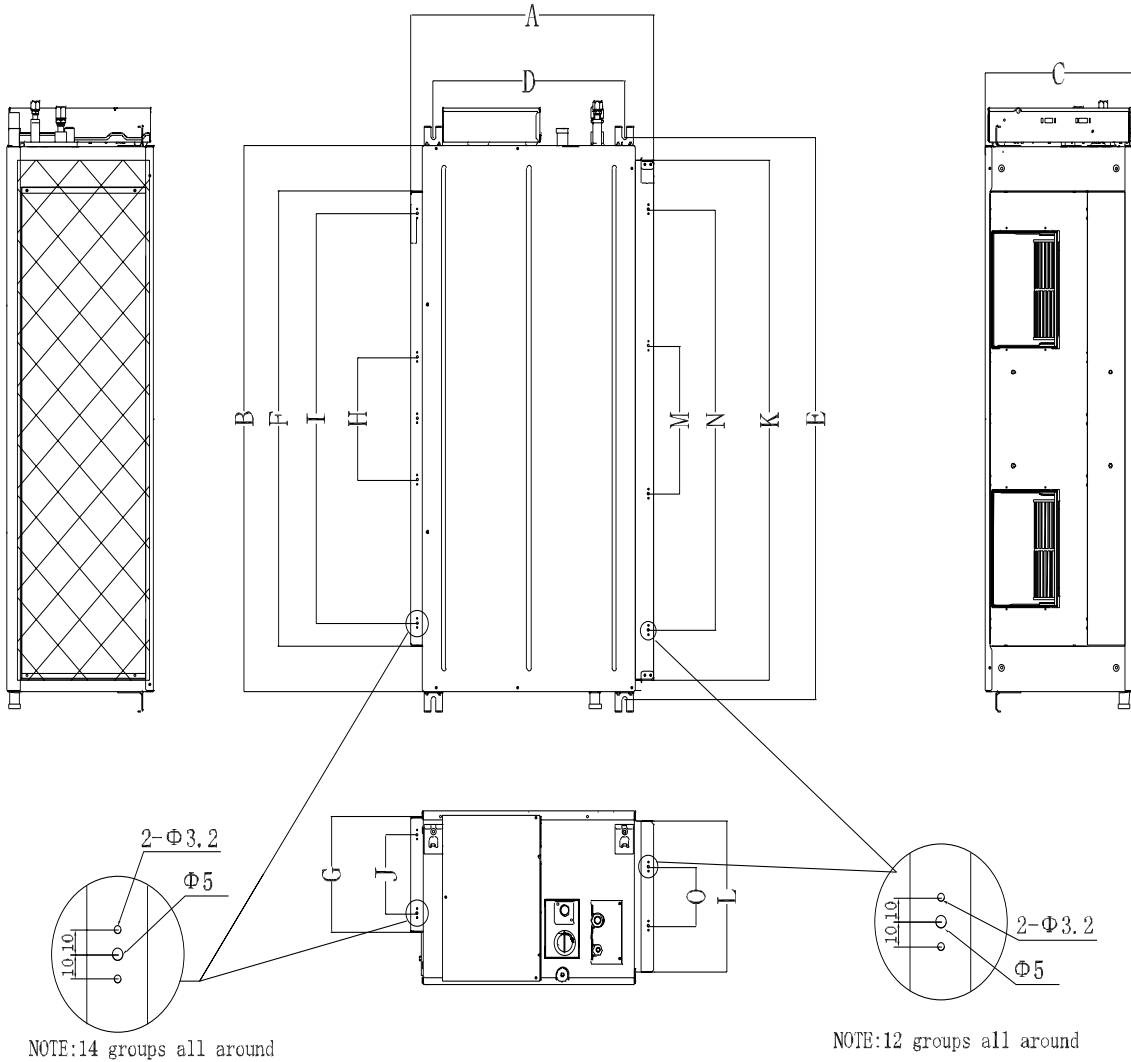


Model	unit	A	B	C	D	E	F	G	H	I	J	K	L	M	H1	H2	W1	W2
DDP1																		
18	mm	880	210	674	660	140	706	50	136	782	190	40	920	508	78	148	88	112
	inch	34.65	8.27	26.54	25.98	5.51	27.80	1.97	5.35	30.79	7.48	1.57	36.22	20	3.07	5.83	3.46	4.41
24	mm	1100	249	774	700	140	926	50	175	1001	228	5	1140	598	80	150	130	155
	inch	43.31	9.80	30.47	27.56	5.51	36.46	1.97	6.89	39.41	8.98	0.2	44.88	23.54	3.15	5.91	5.12	6.10
36	mm	1200	300	874	800	123	1044	50	227	1101	280	5	1240	697	80	150	185	210
	inch	47.24	11.81	34.41	31.5	4.84	41.1	1.97	8.94	43.35	11.02	0.2	48.82	27.44	3.15	5.91	7.28	8.27



## Dimensional Data

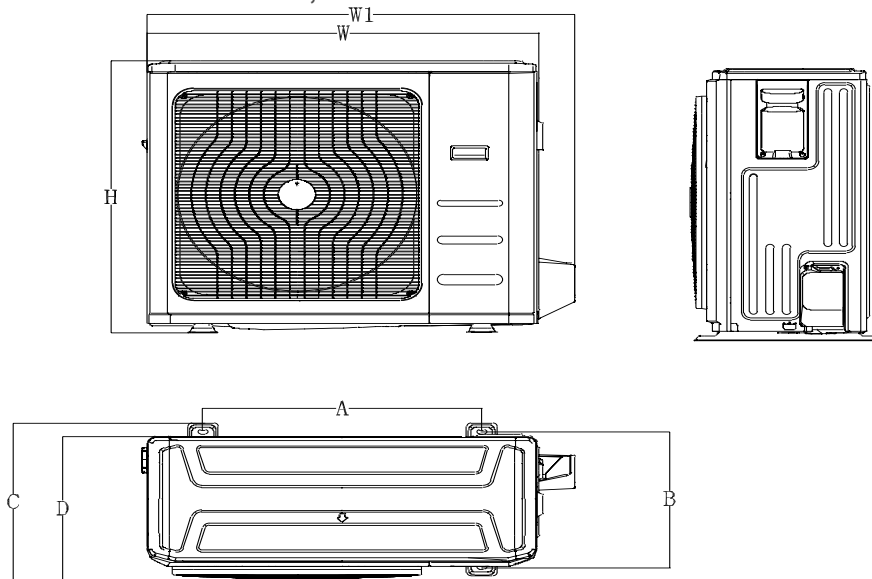
INDOOR UNITS - RXH Models: DDP1-48 & DDP1-60



Model	unit	Outline dimension			Size of mounted lug		Air outlet opening size(symmetry of air outlet opening)					Air inlet opening size(symmetry of air inlet opening)				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
48	mm	625	1200	380	495	1236	1000	253	270	900	170	1145	334	325	925	130
	inch	24.61	47.24	14.96	19.49	48.66	39.37	9.96	10.63	35.43	6.69	45.08	13.15	12.8	36.42	5.12
55	mm	858	1400	440	700	1436	1188	385	500	1000	280	1188	385	500	1000	280
	inch	33.78	55.12	17.32	27.56	56.54	46.77	15.16	19.69	39.37	11.02	46.77	15.16	19.69	39.37	11.02

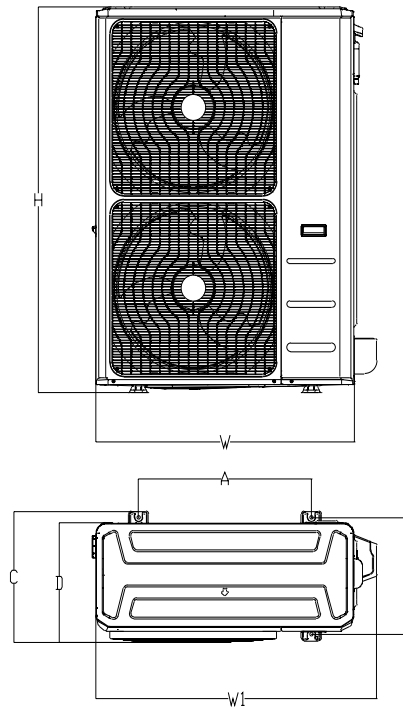
## Dimensional Data

### OUTDOOR UNITS - RXH Models: RXH1-18, RXH1-24 & RXH1-36



RXH1	unit	W	D	H	W1	A	B	C
18	mm	845	363	702	914	540	350	375
	inch	33.27	14.29	27.64	35.98	21.26	13.78	14.8
24	mm	946	410	810	1030	673	403	455
	inch	37.24	16.14	31.89	40.55	26.50	15.87	17.9
36	mm	946	410	810	1030	673	403	455
	inch	37.24	16.14	31.89	40.55	26.50	15.87	17.9

### OUTDOOR UNITS - RXH Models: RXH1-48 & RXH1-60



RXH1	unit	W	D	H	W1	A	B	C
48	mm	952	415	1333	1045	634	404	457
	inch	37.48	16.34	52.48	41.14	24.96	15.9	17.99
60	mm	952	415	1333	1045	634	404	457
	inch	37.48	16.34	52.48	41.14	24.96	15.9	17.99



# GUIDE SPECIFICATIONS

Ducted split Air Conditioning system shall composed of a compact design indoor fan coil unit and floor, Wall or Rooftop mounted outside air cooled condensing unit, rated with AHRI standards 210/240 & ISO 13253.

## CONDENSING UNIT:

The condensing unit shall be composed of compressor, condenser, coil, condenser fan and motor.

## CONDENSER COIL

The condenser coil shall be air cooled constructed of high efficiency inner grooved copper tube mechanically expanded into hi-efficiency aluminum fins and tested against leakage by high pressure under water.

## COMPRESSOR

- Compressor shall be hermetic Rotary type.
- Compressor have an internal Thermal relief assembly to protect against excessive pressure & temperature differential.

## CONDENSER FAN

For side discharge air delivery, the fan shall be equipped with statically and dynamically balanced plastic blades, and inherent corrosion resistant shaft.

## MOTOR

The motor shall be a multi speed DC Motor, which reducing the power consumption.

## CONTROLS

Condensing unit shall be provided with a control panel comprising all electrical control devices except for the field supplied room thermostat and shall include a PCB board to control the unit.

## INDOOR UNIT:

The indoor unit shall be composed of evaporator coil, fan motor assembly.

## EVAPORATOR COIL

Evaporator coil shall be constructed of high efficiency copper tubes, mechanically bonded to aluminium fins. The coil consists of headers of seamless copper and flow control distributor.

## EVAPORATOR FAN

Fan shall be double inlet, double width, direct driven with centrifugal type wheel. Fan wheel shall be with multi forward curved blades. Fan shall be statically and dynamically balanced. Fan housing and wheel shall be made of plastic and galvanized steel sheet based on the model.

## MOTOR

Motor shall be single phase, Multi speed DC Motor type, suitable for 220-240V/1Ph/50-60Hz. Highly efficient with integral thermal protection. Motor shall have high power factor and shall be with permanent lubricated sleeve bearings.

## CASING

The unit casing shall be made of zinc coated galvanized steel sheets for both ODU and IDU, for ODU shall be phospatized and then electro statically dry powder coated of approx 60 microns to provide an extremely tough, scratch resistance, and excellent anti corrosive protection.











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