

## Rooftop Rooftop Packaged Unit

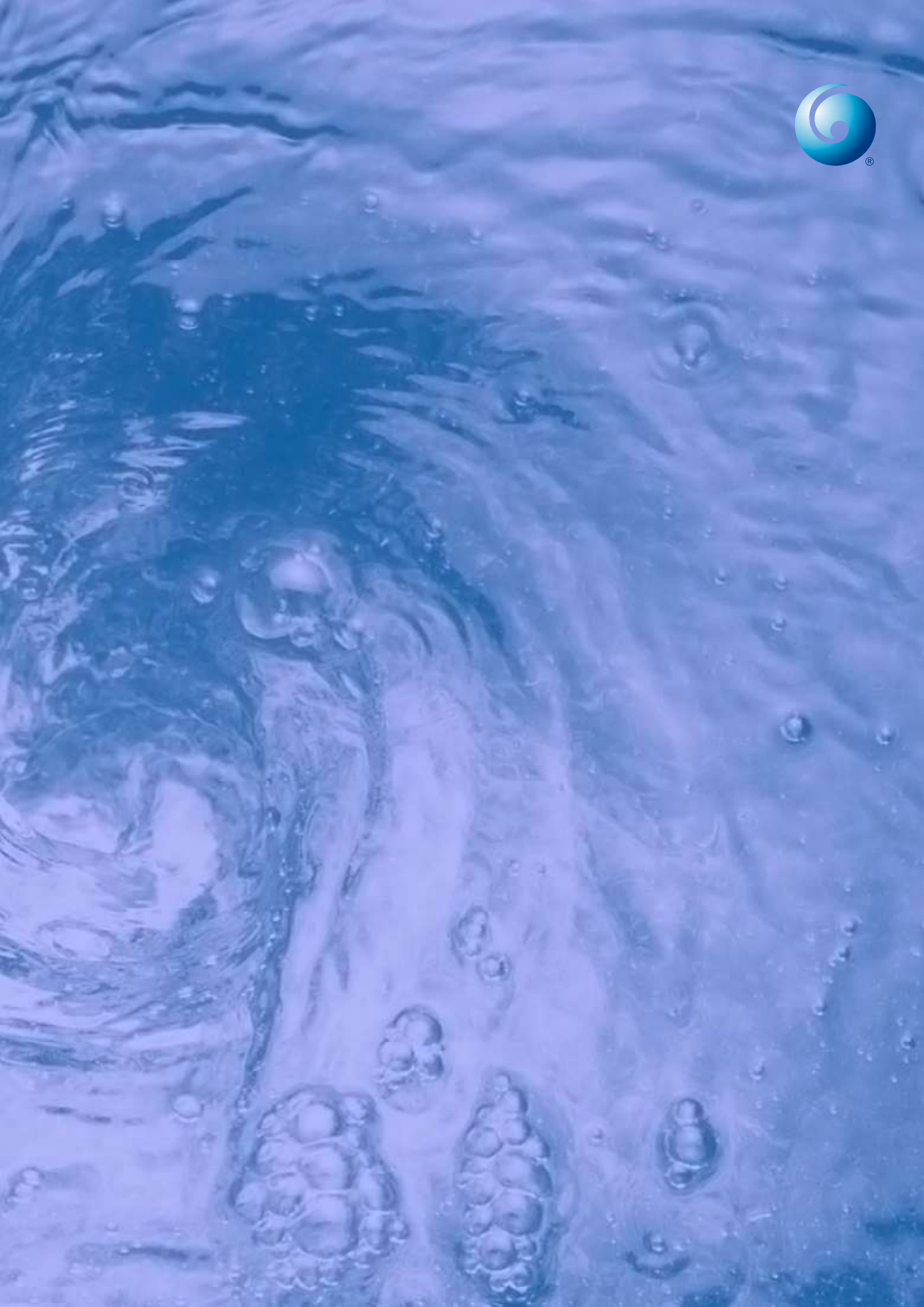
10 ÷ 300 kW

R410a

Optional heat recovery

Optional free cooling





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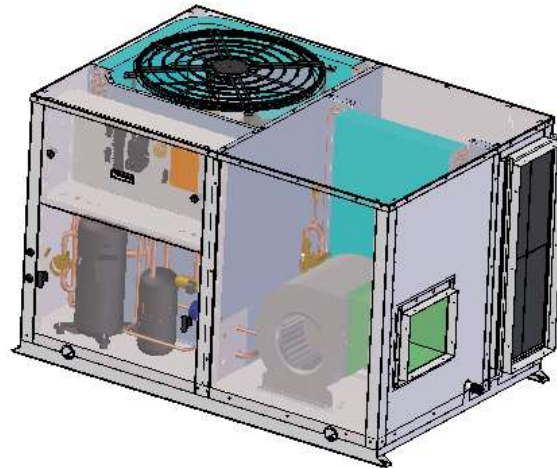
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AIRWAVE is well-known in the international air conditioning industry for its professional research and design, high quality products and aftersales service, originated from Italia in 2005. Today, AIRWAVE has grown into an international refrigeration & air conditioning products and system supplier, providing users all over the world with our reliable products, professional expert group and all-around prompt supporting services to meet customers' diverse needs on HVAC in commercial, industrial and residential fields.

AIRWAVE aims to users who have special demands on product quality, size and energy saving, etc. We are committed to provide them comprehensive services including system design, product development, project installation and after-sales support.

AIRWAVE brings great influences to the world around us in many ways. Our products are widely used in many countries and regions, including Europe, Russia, Middle East, South Asia, Middle Asia, South Africa, North Africa, etc. We provide not only comfortable sight experience, but also perfect energy-saving solutions, which are genuine benefits to the users.

# Introduzione / Introduction



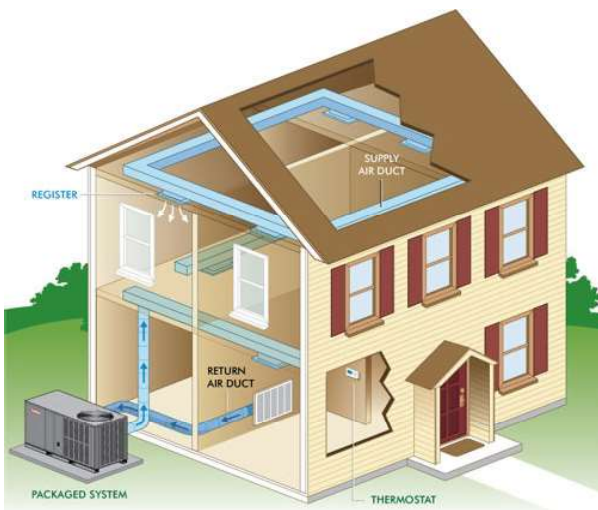
Standard Structure

VRPC: solo freddo  
 VRPH: pompa di calore  
 Versione Roof top  
 Condensata ad aria  
 Potenza da 10 a 300 kW

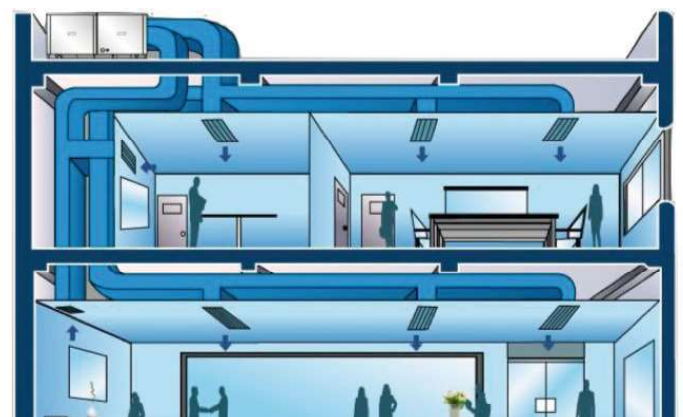
VRPC: cooling only  
 VRPH: heat pump  
 Air cooled  
 Roof top  
 Capacity from 10 to 300 kW

Le unità VRPC e VRPH sono modelli multifunzione che comprendono tutti gli elementi necessari al funzionamento del sistema ottimizzando le attività di installazione. Grazie alla loro struttura in acciaio preverniciato sono resistenti all'azione degli agenti atmosferici, mentre speciali accorgimenti strutturali le rendono compatte ed estremamente silenziose. Ciascuna unità viene collaudata in fabbrica e viene consegnata al cliente già pronta per l'uso.

The VRPC and VRPH units are all-in-one models that incorporate all the necessary parts for system operation thereby optimizing work on site. Thanks to their pre-painted steel frame, they are weatherproof, while special constructional expedients make them compact and extra low noise. Each unit is factory tested and arrives on site ready for use.



Ground Installation



Roof Installation

# Nomenclatura / Nomenclature

V R P C 1 6 8 A 5 S S F E S R S  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1: AIRWAVE

2&3: Product type: Rooftop Packaged Unit

4: Function: H: Heat pump, C: Cooling Only, T: Tropical (T3)

5, 6, 7: Cooling capacity: 36MBTU to 1,000MBTU

8: Refrigerant: A: R410a, C: R407C

9: Power supply:

4=230V/3PH/60HZ

5=380V/3PH/50HZ

6=415V/3PH/50HZ

7=460V/3PH/60HZ

10: Condensing fan: S: Standard, H: High static pressure type

11: Supply&return air mode: S: Side, D: Downwards, U: Upwards

12: Free cooling/Economizer: S: Without, F: With

13: Auxiliary heater: E: Electrical Heater C: Hot water coil

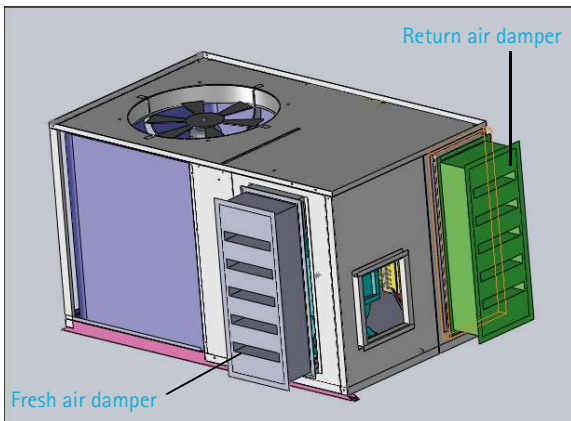
14: Supply fan: S: Standard ESP, H: High ESP, L: Low ESP

15: Heat recovery: S: Without, P: 10%-40% R: 50%-100%

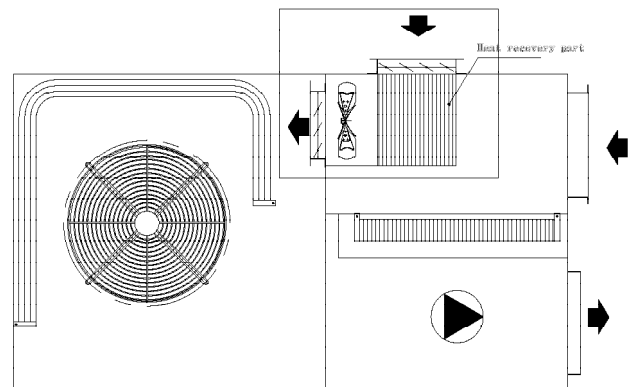
16: Compressor: S: Standard, D: Danfoss, C: Copeland

# Funzionalità opzionali / Optional function

## Free cooling



## Partial heat recovery



## 50%-100% heat recovery with wheel rotary



# Caratteristiche / Features

## Caratteristiche

Solo freddo e con pompa di calore.

Resistente alle intemperie-Rifinito con vernice per lamiera a polvere elettrostatica in poliester epossidico resistente alle intemperie, e rivestimento multistrato in poliester epossidico per il telaio di base per garantire una protezione ottimale.

Controllo intelligente- I parametri dell'unità sono controllati e regolati dal sistema del microcomputer.

Alto rendimento- Il rendimento è alto grazie ai compressori scroll con supporti antivibranti.

Funzionalità immediata - Appena completata l'installazione viene garantito l'avvio immediato.

Sicurezza e affidabilità - Funzioni di controllo totale sull'unità, multiprotezione, funzionamento sicuro e affidabile.

Funzionamento silenzioso: Questo tipo è sostanzialmente costruito e progettato per la ridotta rumorosità quale fattore principale (sono utilizzate ventole a bassa rumorosità. Nella sezione dell'evaporatore e del compressore sono montati isolamenti in fibra di vetro e giunti antivibrazione.)

## Features

Cooling only and heat pump.

Weather proof-Weather-proof, polyester epoxy powder electrostatic paint oven-baked finish for sheet metal and multi epoxy polyester coating for base frame for maximum protection

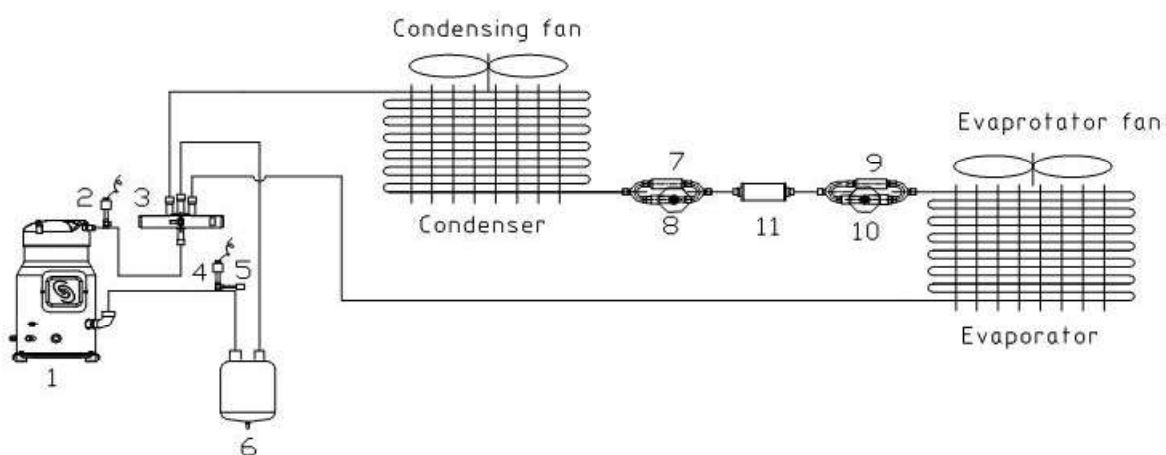
Intelligent control-Parameters of unit are monitored and adjusted by microcomputer system.

High efficiency- High efficiency thanks to the Anti-vibration mounting scroll compressors.

Immediate operability - Quick start-up is assured once installation is complete.

Safety and reliability -Complete unit control function, multi protection, safe and reliable operation.

Quiet Operation: This type are basically constructed and engineered with noise reduction as a first consideration (low noise mouted fans are used. Fiber glass insulation for evaporator section and compressor are mounted on vibration isolators.)



- |   |                                      |
|---|--------------------------------------|
| 1 | COMPRESSOR                           |
| 2 | HIGH PRESSURE SWITCH                 |
| 3 | REVERSING VALVE (HEATING MODEL ONLY) |
| 4 | LOW PRESSURE SWITCH                  |
| 5 | PIN VALVE                            |
| 6 | OIL SEPARATOR                        |

- |    |                              |
|----|------------------------------|
| 7  | SINGLE WAY VALVE             |
| 8  | EXPANSION VALVE or CAPILLARY |
| 9  | SINGLE WAY VALVE             |
| 10 | EXPANSION VALVE or CAPILLARY |
| 11 | FILTER                       |

# Specifiche tecniche / Specification

Model		VRPC36 VRPH36	VRPC48 VRPH48	VRPC60 VRPH60	VRPC72 VRPH72
Cooling capacity	kW	12.0	15.2	17.5	24.0
Heating capacity	kW	13.2	16.6	18.4	26.5
Energy steps	%	0-100	0-100	0-100	0-50-100
Cooling power input	kW	4.1	5.3	5.5	8.8
Heating power input	kW	3.8	4.8	5.1	8.2
Starting current	A	48	62	63	63
Cooling running current	A	7.4	9.7	10.2	16.1
Heating running current	A	6.9	9.2	9.7	15.1
Throttle type		Thermal expansion valve			
Circuit number		1	1	1	2
Refrigerant	Type	R410a			
	Charging amount (kgs)	3.1	3.1	4.3	2*3.1
Compressor	Type	Full hermetic scroll compressor			
	Quantities	1	1	1	2
Power supply	V/φ/Hz	380/3/50			
<b>Condensing side</b>					
Condenser	Type	Copper tube with blue fins			
Condensing fan	Quantities	1	1	1	1
	Driven type	Direct			
	Power input (kW)	0.25	0.37	0.37	0.55
	Air flow (m <sup>3</sup> /h)	4600	7800	7800	9000
<b>Evaporating side</b>					
Evaporator	Type	Copper tube with blue fins			
Air supply fan	Quantities	1	1	1	1
	Driven type	Direct	Direct	Direct	Belt
	Power input (kW)	0.32	0.37	0.45	1.1
	Air flow (m <sup>3</sup> /h)	2100	2600	3400	4100
	ESP (Pa)	100	100	100	200
Filter	Type & efficiency	6 layers aluminum filter G3, G4 is optional.			
Noise	dB(A)	67	67	68	71
Dimension	Length (mm)	1410	1410	1410	1978
	Width (mm)	1100	1100	1100	1175
	Height (mm)	1095	1095	1095	1095
Weight	Kg	240	260	290	420

**Note**

Condizioni di funzionamento esterno:  
 in raffreddamento, temperatura DB:35°C (95F), WB:24°C (75F);  
 In riscaldamento, temperatura DB:7°C (47F), WB:6°C (43F);

**Notes**

Out working conditions:  
 in cooling, temperature DB:35°C (95F), WB:24°C (75F);  
 in heating, temperature DB:7°C (47F), WB:6°C (43F);



## Specifiche tecniche / Specification

Model		VRPC96 VRPH96	VRPC125 VRPH125	VRPC168 VRPH168	VRPC180 VRPH180
Cooling capacity	kW	30.3	35.6	44.5	50.0
Heating capacity	kW	33.3	37.7	48.7	54.3
Energy steps	%	0-50-100	0-50-100	0-50-100	0-50-100
Cooling power input	kW	11.3	12.3	17	19.5
Heating power input	kW	10.4	11.3	15.6	18
Starting current	A	74	76	168	186
Cooling running current	A	21.2	23.3	31.7	35.6
Heating running current	A	20.1	22.2	29.9	33.5
Throttle type		Thermal expansion valve			
Circuit number		2	2	2	2
Refrigerant	Type	R410a			
	Charging amount (kgs)	2*3.1	2*4.3	4.3+	4.3+8.5
Compressor	Type	Full hermetic scroll compressor			
	Quantities	2	2	2	2
Power supply	V/φ/Hz	380/3/50			
<b>Condensing side</b>					
Condenser	Type	Copper tube with blue fins			
Condensing fan	Quantities	1	1	1	1
	Driven type	Direct			
	Power input (kW)	0.75	0.75	1.1	1.5
	Air flow (m <sup>3</sup> /h)	12600	12600	16500	21000
<b>Evaporating side</b>					
Evaporator	Type	Copper tube with blue fins			
Air supply fan	Quantities	1	1	1	1
	Driven type	Belt	Belt	Belt	Belt
	Power input (kW)	1.5	2.2	3	3
	Air flow (m <sup>3</sup> /h)	5200	6300	7600	8500
	ESP (Pa)	200	250	250	250
Filter	Type & efficiency	6 layers aluminum filter G3, G4 is optional.			
Noise	dB(A)	72	72	73	73
Dimension	Length (mm)	1978	1978	2268	2268
	Width (mm)	1175	1175	1440	1440
	Height (mm)	1095	1095	1167	1167
Weight	Kg	480	500	750	770

Note

Condizioni di funzionamento esterno:

in raffreddamento, temperatura DB:35°C (95F), WB:24°C (75F);

In riscaldamento, temperatura DB:7°C (47F), WB:6°C (43F);

Notes

Out working conditions:

in cooling, temperature DB:35°C (95F), WB:24°C (75F);

in heating, temperature DB:7°C (47F), WB:6°C (43F);

# Specifiche tecniche / Specification

Model		VRPC210 VRPH210	VRPC250 VRPH250	VRPC300 VRPH300	VRPC360 VRPH360
Cooling capacity	kW	60	70	90	105
Heating capacity	kW	64	75.4	96.2	113.2
Energy steps	%	0-50-100	0-50-100	0-33-66-100	0-33-66-100
Cooling power input	kW	22.8	26.7	32.9	39.7
Heating power input	kW	21	24.8	30.4	36.7
Starting current	A	175	199	197	266
Cooling running current	A	39.9	48.3	61	70.6
Heating running current	A	37.5	45.4	57.3	66.3
Throttle type		Thermal expansion valve			
Circuit number		2	2	3	3
Refrigerant	Type	R410a			
	Charging amount (kgs)	2*7.5	2*8.5	3*7.5	3*8.5
Compressor	Type	Full hermetic scroll compressor			
	Quantities	2	2	3	3
Power supply	V/φ/Hz	380/3/50			
<b>Condensing side</b>					
Condenser	Type	Copper tube with blue fins			
	Quantities	1	1	2	2
Condensing fan	Driven type	Direct			
	Power input (kW)	1.5	2.2	2*1.1	2*1.5
	Air flow (m <sup>3</sup> /h)	21000	27000	33000	42000
<b>Evaporating side</b>					
Evaporator	Type	Copper tube with blue fins			
Air supply fan	Quantities	1	1	1	1
	Driven type	Belt	Belt	Belt	Belt
	Power input (kW)	4	4	5.5	5.5
	Air flow (m <sup>3</sup> /h)	10900	12500	16000	19500
	ESP (Pa)	300	300	300	300
Filter	Type & efficiency	6 layers aluminum filter G3, G4 is optional.			
Noise	dB(A)	73	75	74	75
Dimension	Length (mm)	2298	2298	2878	2878
	Width (mm)	1650	1650	2140	2140
	Height (mm)	1400	1400	1964	1964
Weight	Kg	880	960	1160	1350

#### Note

Condizioni di funzionamento esterno:  
 in raffreddamento, temperatura DB:35°C (95F), WB:24°C (75F);  
 In riscaldamento, temperatura DB:7°C (47F), WB:6°C (43F);

#### Notes

Out working conditions:  
 in cooling, temperature DB:35°C (95F), WB:24°C (75F);  
 in heating, temperature DB:7°C (47F), WB:6°C (43F);

## Specifiche tecniche / Specification

Model		VRPC420 VRPH420	VRPC480 VRPH480	VRPC540 VRPH540
Cooling capacity	kW	120	140	149
Heating capacity	kW	128.3	150	159.2
Energy steps	%	0-25-50-75-100	0-25-50-75-100	0-50-100
Cooling power input	kW	45.1	55.7	55.1
Heating power input	kW	41.7	51.8	51.5
Starting current	A	218	252	323
Cooling running current	A	82.4	101.4	100.2
Heating running current	A	77.4	95.7	95.1
Throttle type		Thermal expansion valve		
Circuit number		4	4	2
Refrigerant	Type	R410a		
	Charging amount (kgs)	4*7.5	4*8.5	2*17
Compressor	Type	Full hermetic scroll compressor		
	Quantities	4	4	2
Power supply	V/φ/Hz	380/3/50		
<b>Condensing side</b>				
Condenser	Type	Copper tube with blue fins		
	Quantities	2	2	2
Condensing fan	Driven type	Direct		
	Power input (kW)	2*1.5	2*2.2	2*2.2
	Air flow (m <sup>3</sup> /h)	42000	54000	54000
<b>Evaporating side</b>				
Evaporator	Type	Copper tube with blue fins		
Air supply fan	Quantities	1	1	1
	Driven type	Belt	Belt	Belt
	Power input (kW)	7.5	11	11
	Air flow (m <sup>3</sup> /h)	21000	25000	25000
	ESP (Pa)	400	400	400
Filter	Type & efficiency	6 layers aluminum filter G3, G4 is optional.		
Noise	dB(A)	75	79	79
Dimension	Length (mm)	3626	3626	3626
	Width (mm)	2200	2200	2200
	Height (mm)	2047	2047	2047
Weight	Kg	1710	1820	1850

Note

Condizioni di funzionamento esterno:

in raffreddamento, temperatura DB:35°C (95F), WB:24°C (75F);

In riscaldamento, temperatura DB:7°C (47F), WB:6°C (43F);

Notes

Out working conditions:

in cooling, temperature DB:35°C (95F), WB:24°C (75F);

in heating, temperature DB:7°C (47F), WB:6°C (43F);

# Specifiche tecniche / Specification

Model		VRPC600 VRPH600	VRPC720 VRPH720	VRPC1000 VRPH1000
Cooling capacity	kW	180	210	298
Heating capacity	kW	192.5	226	318
Energy steps	%	0-16.6-33.3-50-66.4-83-100		0-25-50-75-100
Cooling power input	kW	69.9	83	106.7
Heating power input	kW	64.8	77	100
Starting current	A	232	301	415
Cooling running current	A	130.9	151	192.3
Heating running current	A	123.5	142.3	184.3
Throttle type		Thermal expansion valve		
Circuit number		6	6	4
Refrigerant	Type	R410a		
	Charging amount (kgs)	6*7.5	6*8.5	4*14
Compressor	Type	Full hermetic scroll compressor		
	Quantities	6	6	4
Power supply	V/φ/Hz	380/3/50		
<b>Condensing side</b>				
Condenser	Type	Copper tube with blue fins		
Condensing fan	Quantities	4	4	4
	Driven type	Direct		
	Power input (kW)	4*1.1	4*1.5	4*2.2
	Air flow (m <sup>3</sup> /h)	66000	84000	108000
<b>Evaporating side</b>				
Evaporator	Type	Copper tube with blue fins		
Air supply fan	Quantities	1	1	1
	Driven type	Belt	Belt	Belt
	Power input (kW)	15	15	18.5
	Air flow (m <sup>3</sup> /h)	32000	38000	54000
	ESP (Pa)	500	500	500
Filter	Type & efficiency	6 layers aluminum filter G3, G4 is optional.		
Noise	dB(A)	80	80	82
Dimension	Length (mm)	4690	4690	5660
	Width (mm)	2330	2330	2330
	Height (mm)	2055	2427	2055
Weight	Kg	2180	2430	2860

**Note**

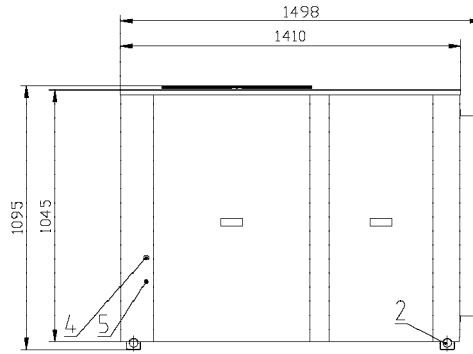
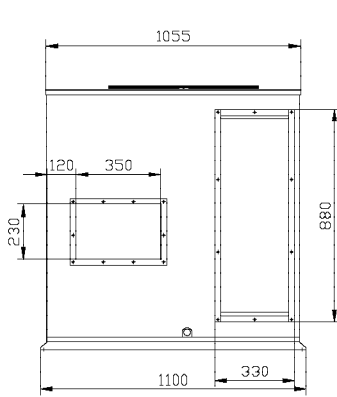
Condizioni di funzionamento esterno:  
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 In riscaldamento, temperatura DB:7°C (47F), WB:6°C (43F);

**Notes**

Out working conditions:  
 in cooling, temperature DB:35°C (95F), WB:24°C (75F);  
 in heating, temperature DB:7°C (47F), WB:6°C (43F);

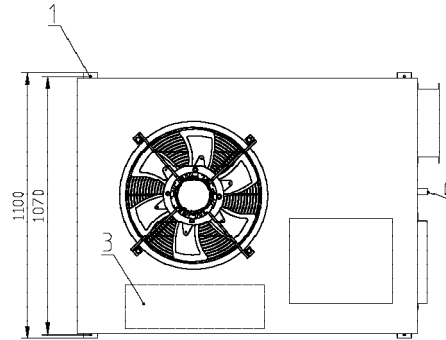
# Dimensione / Dimension

VRPC36/48/60 / VRPH36/48/60

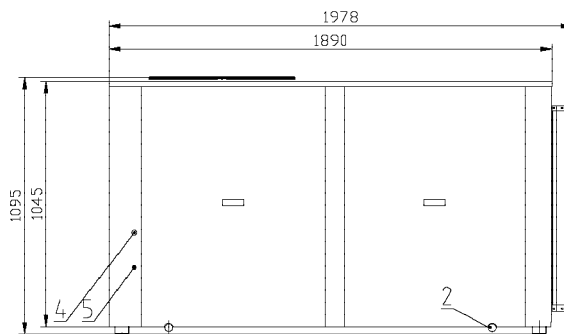
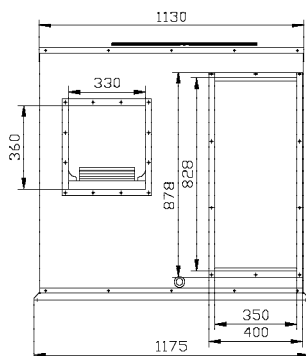


Note:

1. Unit installation holes: 4\* $\phi$ 12.5
2. Lifting holes: 4\* $\phi$ 35
3. Control box
4. Power supply cable hole:  $\phi$ 22
5. Communication cable hole:  $\phi$ 16
6. Condensate water pipe dia.: 1"

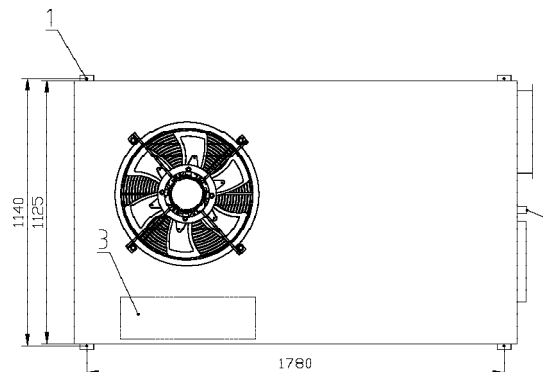


VRPC72/96/125 / VRPH72/96/125

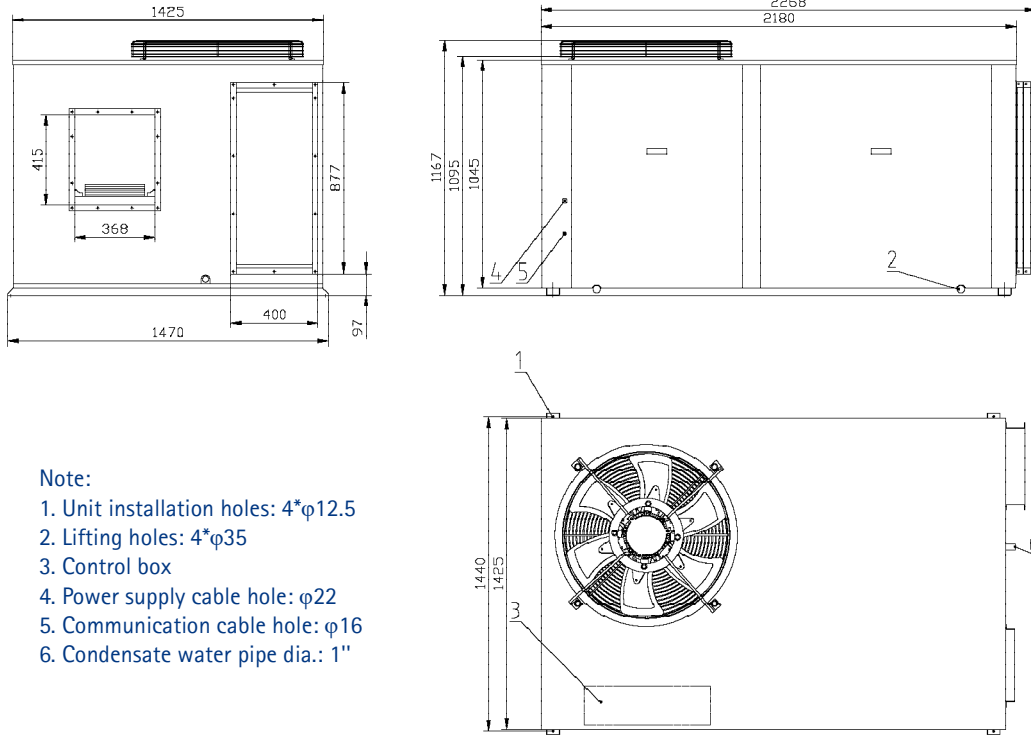


Note:

1. Unit installation holes: 4\* $\phi$ 12.5
2. Lifting holes: 4\* $\phi$ 35
3. Control box
4. Power supply cable hole:  $\phi$ 22
5. Communication cable hole:  $\phi$ 16
6. Condensate water pipe dia.: 1"

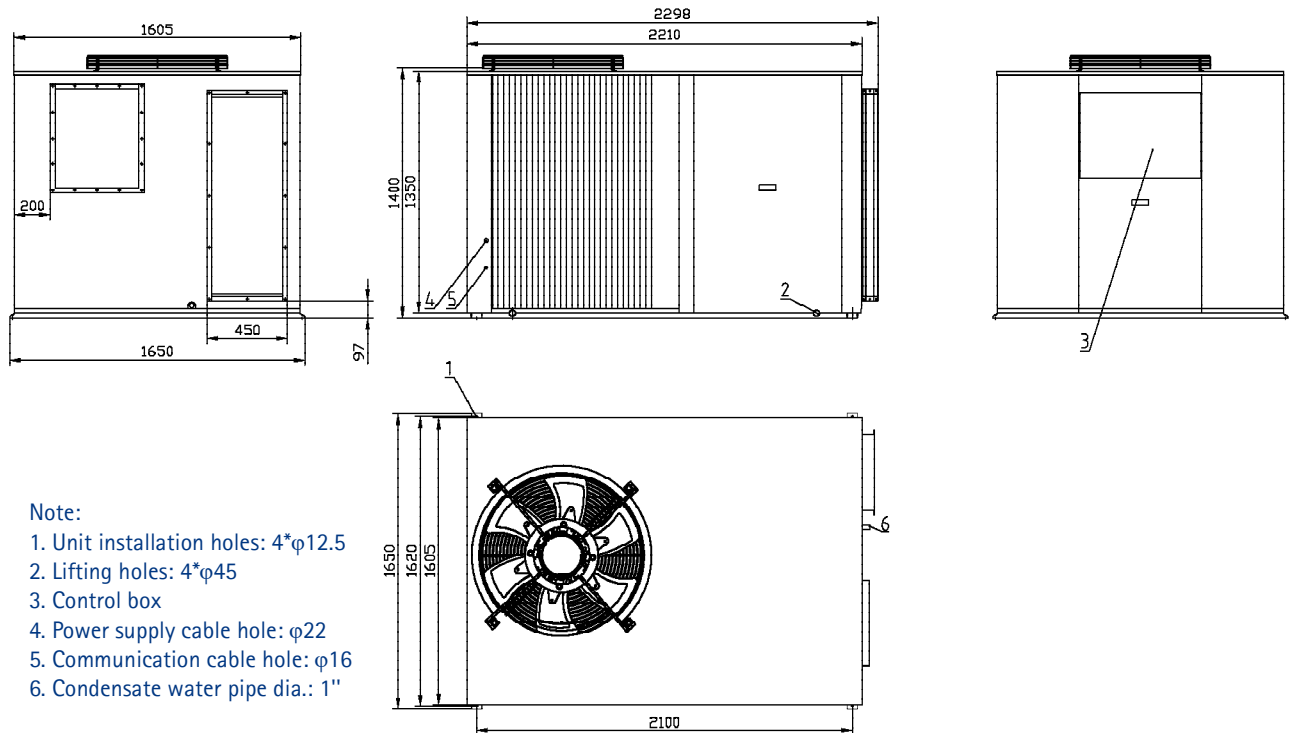


## VRPC168&180 / VRPH168&180



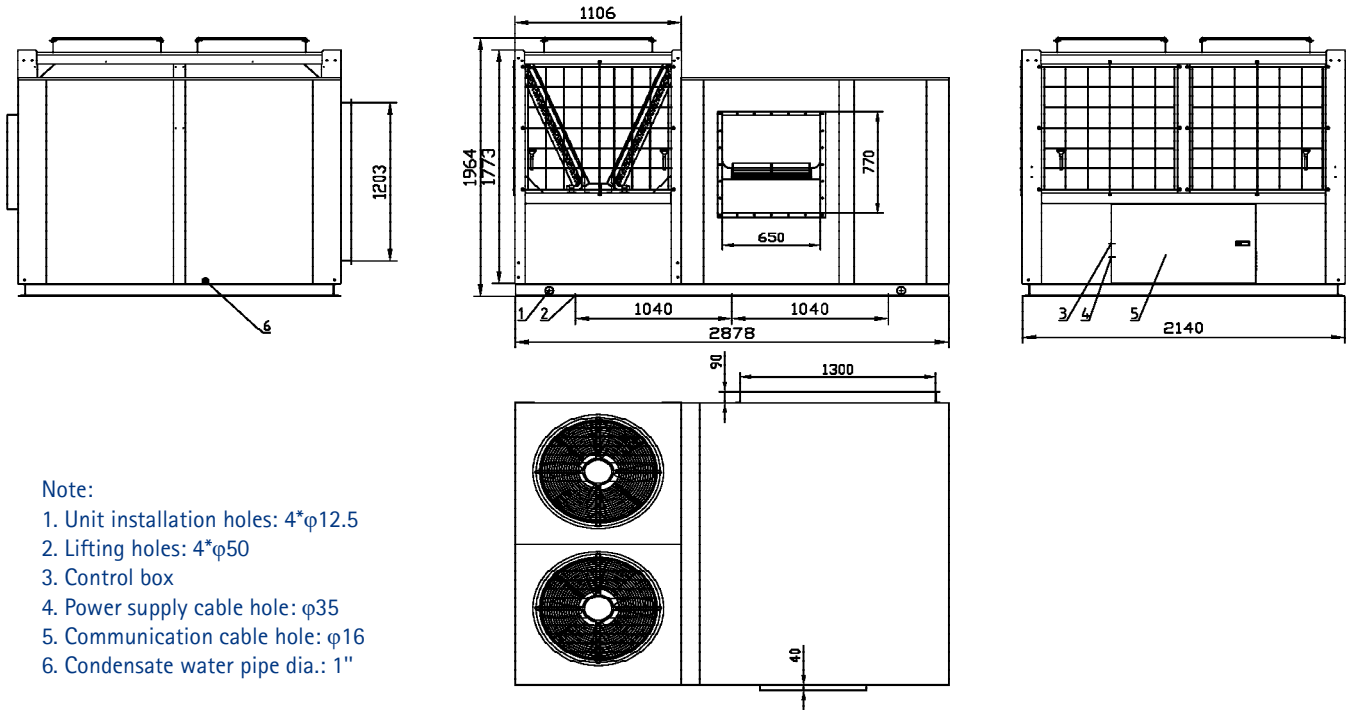
- Note:
1. Unit installation holes: 4\*φ12.5
  2. Lifting holes: 4\*φ35
  3. Control box
  4. Power supply cable hole: φ22
  5. Communication cable hole: φ16
  6. Condensate water pipe dia.: 1"

## VRPC210&250 / VRPH210&250

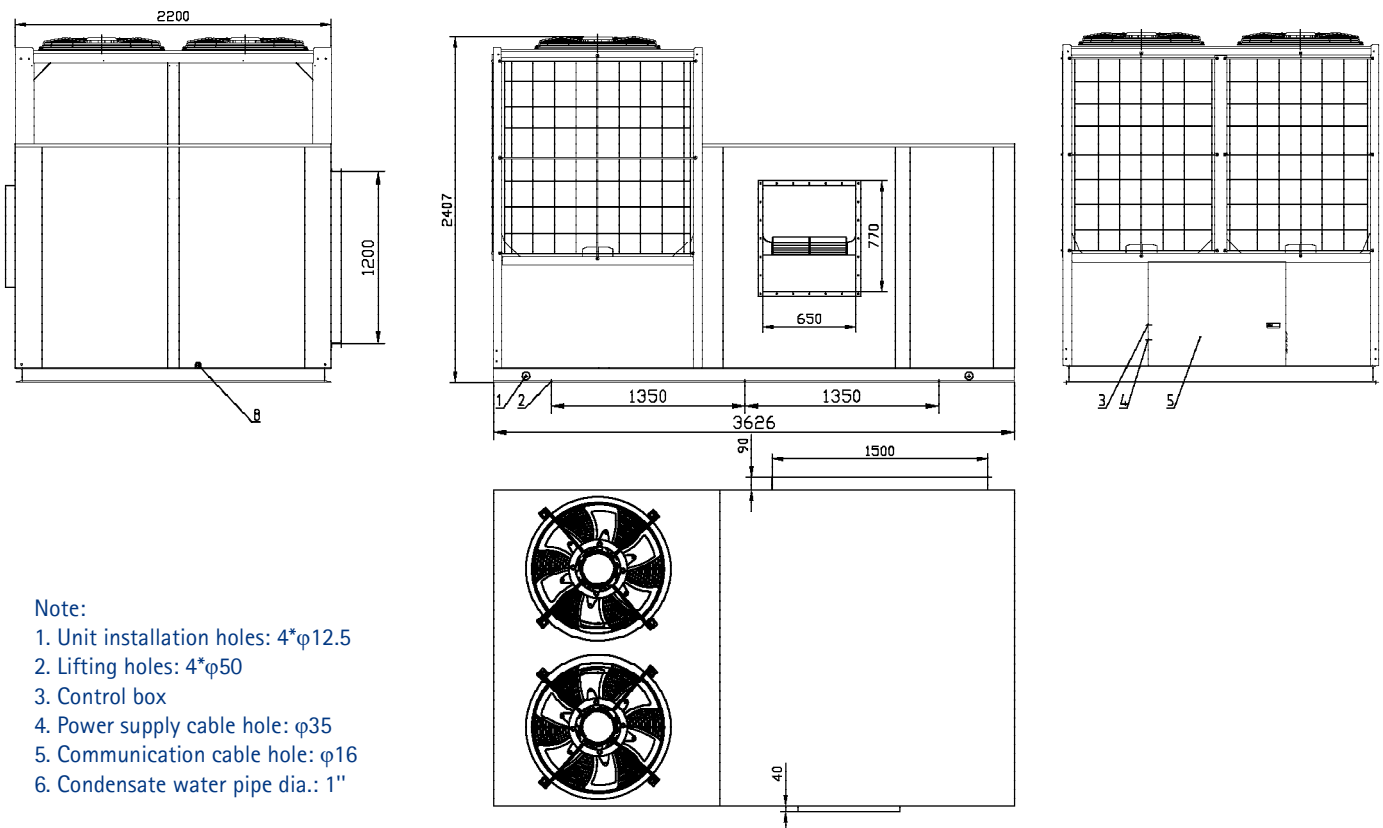


- Note:
1. Unit installation holes: 4\*φ12.5
  2. Lifting holes: 4\*φ45
  3. Control box
  4. Power supply cable hole: φ22
  5. Communication cable hole: φ16
  6. Condensate water pipe dia.: 1"

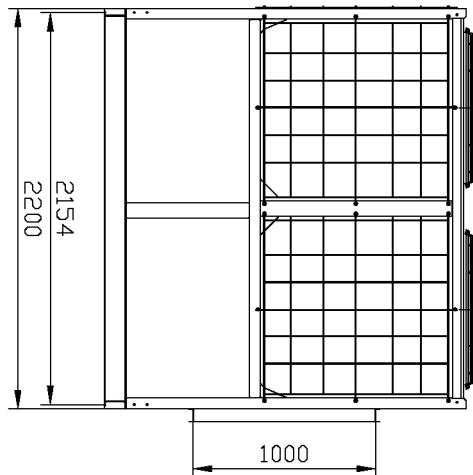
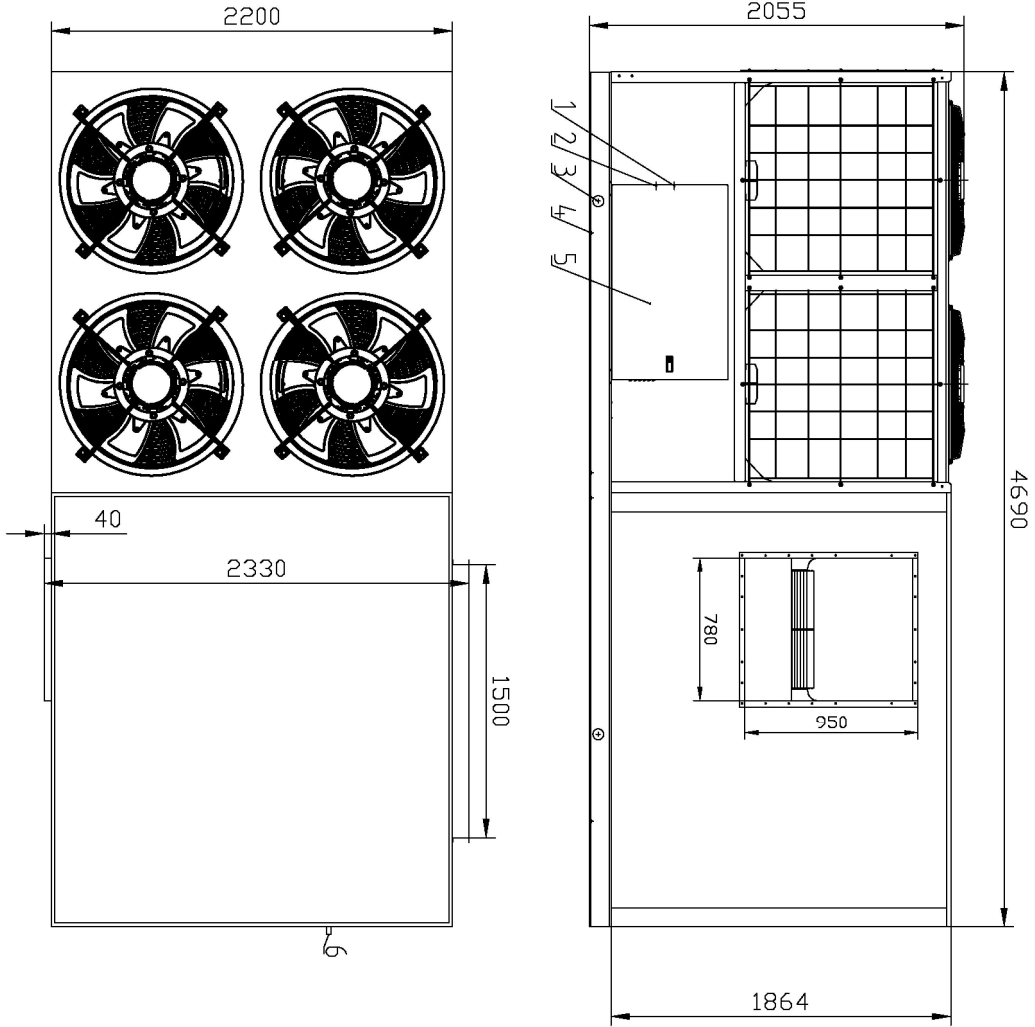
## VRPC300&360 / VRPH300&360



## VRPC420&480&540 / VRPH420&480&540



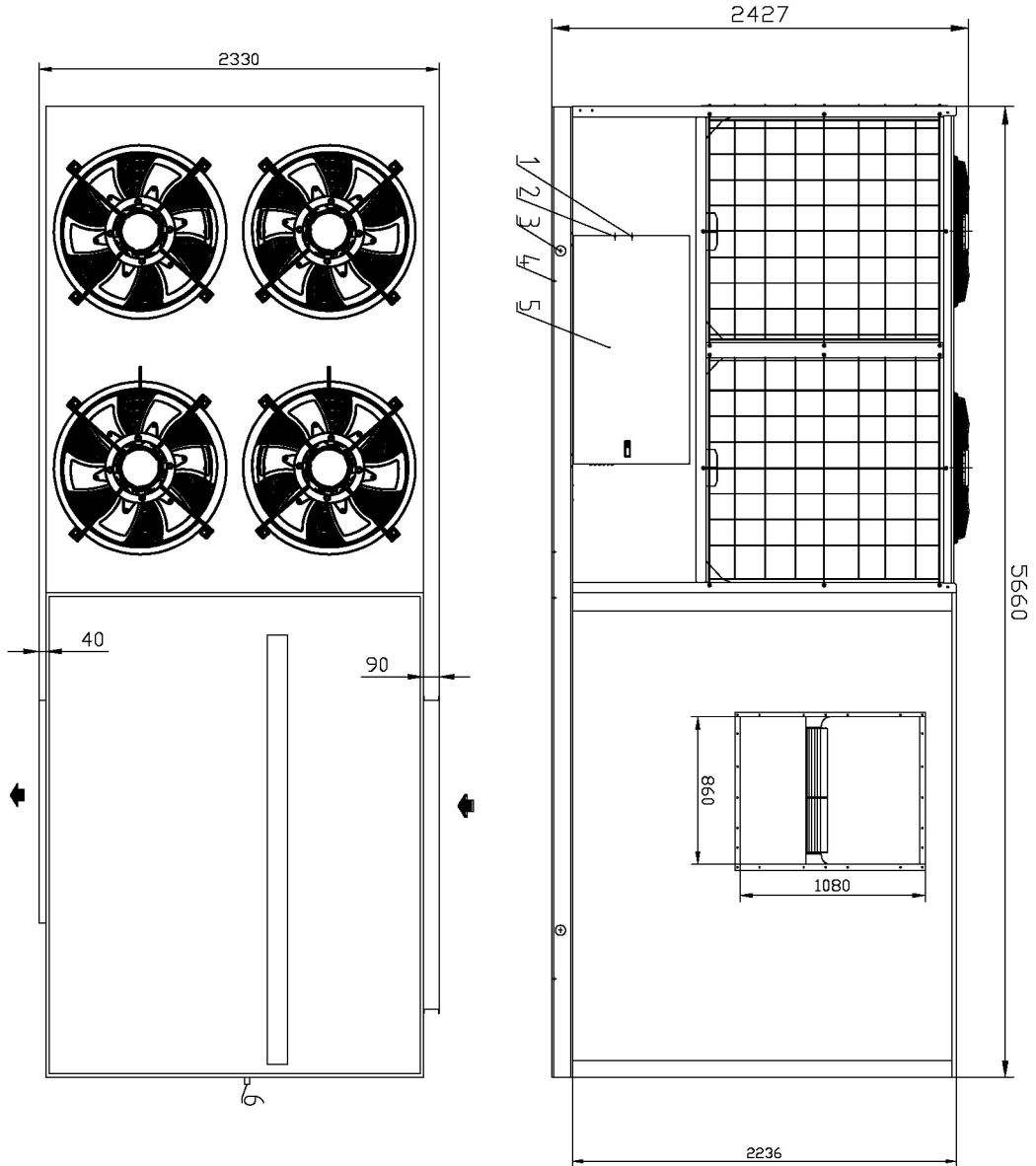
VRPC600&720 / VRPH600&720



- Note:
1. Unit installation holes: 4\* $\phi$ 12.5
  2. Lifting holes: 4\* $\phi$ 50
  3. Control box
  4. Power supply cable hole:  $\phi$ 50
  5. Communication cable hole:  $\phi$ 16
  6. Condensate water pipe dia.: 1"



VRPC1000 / VRPH1000



- Note:
1. Unit installation holes: 4\* $\phi$ 12.5
  2. Lifting holes: 4\* $\phi$ 50
  3. Control box
  4. Power supply cable hole:  $\phi$ 50
  5. Communication cable hole:  $\phi$ 16
  6. Condensate water pipe dia.: 1"



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