

SUBMITTAL

Project: 1610 16st, DC 20009



ROOFTOP UNIT/DOAS

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ROOFTOP

AIR CONDITIONER UNIT

Universal Compact Series



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Features

General Description

The ZPRV Series with new features is suitable for hotel, office, hospital, school, factory and supermarket applications. The low noise and compact series are completely leak tested, evacuated, dehydrated and charged with refrigerant prior to shipment. The units are rated in accordance with AHRI standards 210/240 and 340/360.

Products Line-Up

Nominal Ton	6.2	7.5	8.5	10	12.5	15	17.5	20	25	30	35	40	45
	•	•	•	•	•	•	•	•	•	•	•	•	•

- * Nominal ton only for reference;
- Cooling or heating capacity as per specifications.

Wide Capacity Range

Wide cooling capacity range from 6.5 to 45 tons.
Heat pump and cooling only products are available.

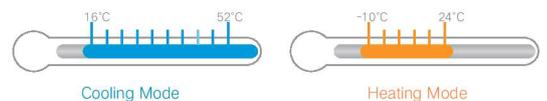


6.5 - 45 Tons

Cooling Only & Heat Pump

Wide Operation Range

ZPRV series HP operate from 16° C to 52° C in cooling mode and from -10° C to 24° C in heating mode.



Standard Cooling only model operate from 16° C to 52° C, low ambient kit can be added to make the unit operate from -15° C to 52° C.



High Efficiency DC Inverter Compressor

Reliability

DC inverter compressor utilizes the permanent magnet motor technology which significantly enhances its overall performance and efficiency. At complete stop of the compressor, the magnets will position the rotor into the optimum position for a low torque start.

Multiple Compressor (ZPRV Series 25Ton and Above)

By cycling off compressor operation to match building load, no energy is being wasted when room load requires lesser cooling capacity. No total shut down when servicing or repairing a faulty compressor.



Environmentally Friendly Refrigerant

ZPRV Series uses the environmentally friendly refrigerant, standard with R410A in each system. Zero ozone depletion potential.



Optional with R32 new refrigerant gas.



Casing

Constructed from heavy gauge galvanized steel. Panels are painted with epoxy powder paint for excellent finish, weatherability and corrosion resistance. Evaporator section is insulated with closed cell Polyethylene (PE) foam.

Safety Control

High-low pressure cutout to protect compressor from high discharge pressure and system leakage.

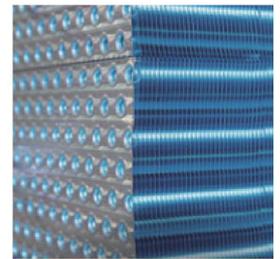
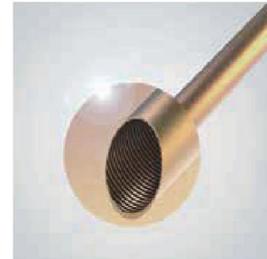
Automatic Adjustment of Throttling

Electronic expansion valve adjusts the opening degree automatically. It makes sure that the system parameters are within a reasonable range when the unit operates under all working conditions, to improve the operation reliability and service life of the unit.



High Efficient Condenser Coil

Staggered row of inner groove tubes with 25 to 30% more surface area guarantee better heat transfer. Mechanically expanded into die-formed corrugated aluminum louver fins with increase the heat exchange surface which is high heat exchange efficiency. Leak and pressure tested to 650 psig.



Fully Leak Tested Refrigerant Circuit

Compressors, condenser coil, filter drier, thermo-expansion valve, distributor and evaporator coil is brazed in complete sealed loop. Leak and pressure tested at 650 psig. Pressure ports are provided on the discharge and suction line. Evacuated, dehydrated and charge with refrigerant gas prior to shipment.

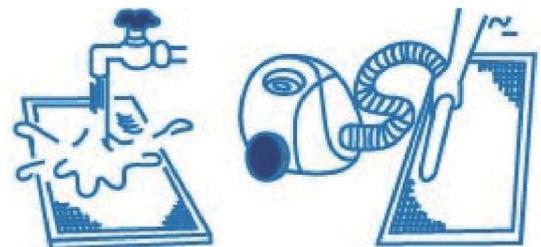
Drive Package And Blowers

Belt driven drive package offers flexibility on various air flow rate and various static pressure applications (ZPRC Series 8.5Ton and above).

Single large diameter double inlet double width blowers (AMCA certified) reduce the noise level and eliminates the need for common transition and eliminates air unbalance.

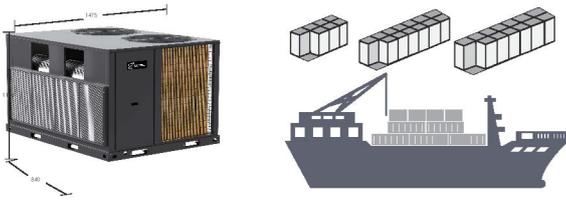


Long Life & Washable Filter

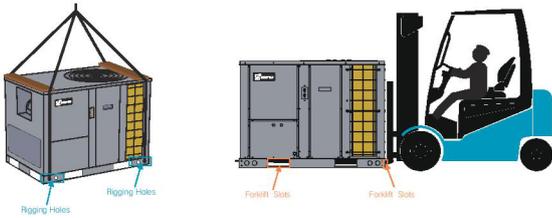


Compact Structure & Easy Transitting

Unit with compact structure design for better loading



The base frame of the unit is designed with forklift slots and rigging holes for easier transportation and installation.



Easy installation

Convenient For Wires Connection

Removable access door on the electric box. It is easy to move the cover of the electric box. Only connect the wires of power supply, and no need to connect any signal wires.



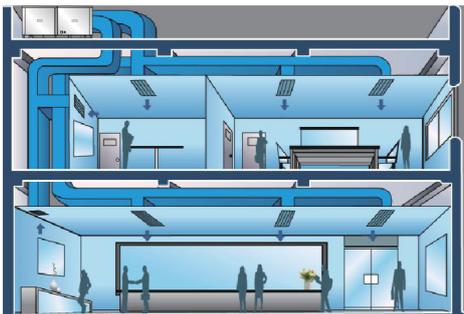
Easily Connect The Drainage Pipe

Reserved external drainage port, quickly and accurately connect the rubber drainage pipe.



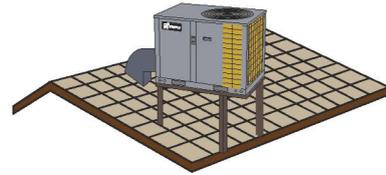
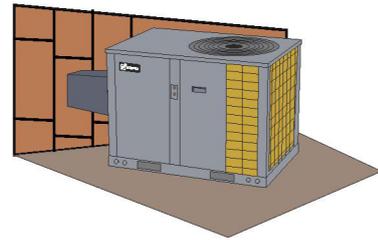
High ESP Design

The external static pressure (ESP) range is from 80Pa~430Pa, which ensures the longer delivery distance for the air and provide the powerful cooling.



Design flexibility

Vertical side-discharge structure design. Flanges of air flow inlet and outlet as standard. It is suitable for installation on rooftop and ground.



Easy Maintenance

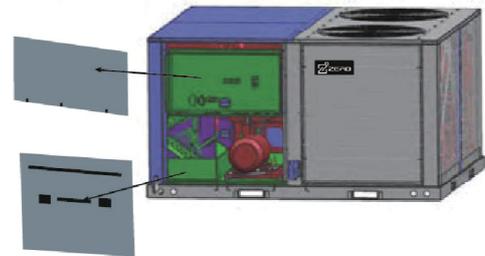
The unit provides external pressure gauge ports for convenient and fast checking system pressure without removing the panel. (Only for 7.5Ton-15Ton)



Easy Access Doors Design

Removable the access doors on the filter, fan motor, and electricbox sections. Provide convenient access to system components for maintenance and service.

Access panel for electric box



Access panel

Controllers

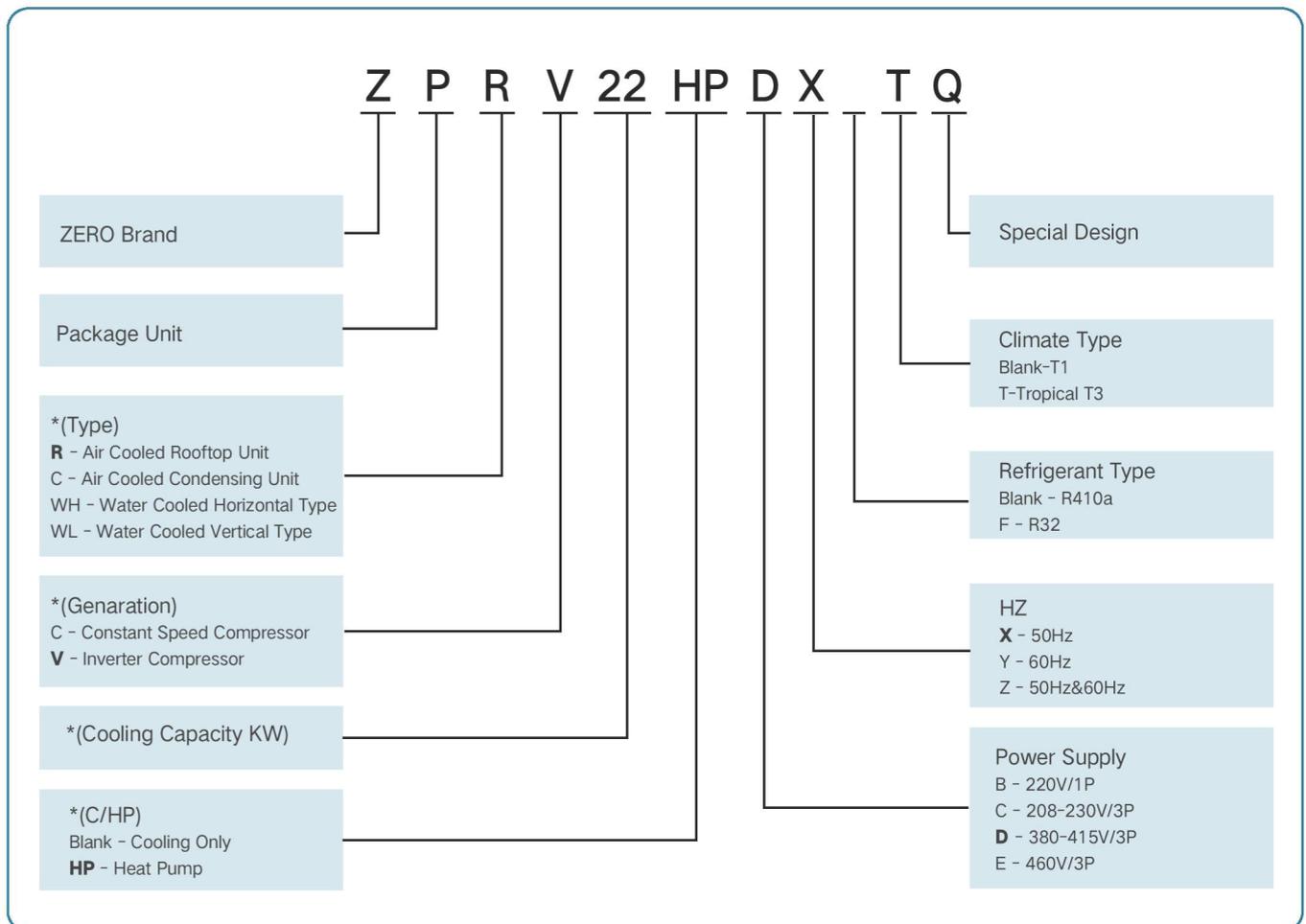
Factory mounted thermostat as standard, can be unit mounted or remoted controlled (within 30M as standard), consult ZERO Eng. Team if longer distance is required. Other brand thermostat can be matched as optional solution. Centralized control function can be achieved through the centralized controller as optional.



Optional Accessories With Varoius Customized Design

- Evaporator & Condenser Coil Corrosion Protection
- Stainless Steel Drain Pan
- Stainless Steel Fasteners
- Hot Water Heating Coil (MODEL 17.5Ton & Above)
- Pressure Gauges (MODEL 17.5Ton & Above)
- Replaceable Core Filter Drier
- Liquid Line Solenoid Valve (LLSV)
- Dirty Filter Relay & Indicating Light
- Closed Cell Elastomer Insulation (Model 17.5Ton & Above)
- Double Skin Panel For Evaporator (Model 17.5Ton & Above)
- C-Channel Structural Steel Base
- R32 New Refrigerant Gas (Inverter Model)
- Star-Delta Starter for Evaporator Fan Motor
- VFD for Evaporator Fan Motor
- Main Incoming Isolator with Door Interlock
- Main Power Supply Monitoring Module (Safety)
- Voltmeter and Ammeter with Phase Selector Switch
- Indicating Lights
- Lock Out Stop
- 24VAC Fire Interlock Relay with Transformer (Detector)
- Service Valve
- Hot Gas Bypass
- 24Vac Control Transformer (Step Down)
- Start/Stop Button for Evaporator Blower Fan
- Electric Heater and Starter
- Low Ambient Kit
- Crankcase Heater
- Economizer
- 10% or 30% Fresh Air Intake
- EC Evaporator Blower
- EC Condenser Axial Fan
- BMS Communication
- VFD for Condenser Fan
- CO₂ Sensor
- PLC Controller
- Touch Screen controller

Nomenclature



SPECIFICATION

208~230V,3PH,60Hz INVERTER COOLING ONLY- STANDARD R410a

Nominal ton		(Ton)	6.2	7.5	8.5	10	12.5	15
ZERO MODEL			ZPRV22CYT	ZPRV26CYT	ZPRV30CYT	ZPRV35CYT	ZPRV43CYT	ZPRV53CYT
Cooling 1	Cooling Capacity	Btu/h	75000	89000	103000	120000	150000	180000
		kW	22	26	30	35	43	53
	Power Input	kW	6.8	8	9.8	11.8	14.8	17.8
	EER 1	Btu/h.W	11	11.1	10.5	10.2	10.1	10.1
Cooling 2	Cooling Capacity	Btu/h	61500	71000	84000	98400	125000	155000
		kW	18	21	25	29	37	45
	Power Input	kW	7.6	8.8	10.5	12.5	15.7	19.2
	EER 2	Btu/h.W	8.1	8.1	8	7.9	8	8.1
Max. input consumption		kW	9.2	10.8	13.3	16	20	24.1
Max. current		A	30.2	35.7	43.8	51.8	64.7	78
Indoor fan air flow		CFM	2800	2800	3500	3500	5500	5500
ESP		Pa	80	80	110	110	130	130
Indoor fan	Type/Drive Type		Centrifugal/Direct	Centrifugal/Direct	Centrifugal/Belt	Centrifugal/Belt	Centrifugal/Belt	Centrifugal/Belt
Compressor	Type		Rotor	Rotor	Rotor	Rotor	Scroll	Rotor
	Quantity		1	1	1	1	1	2
Outdoor Fan	Type/Drive Type		Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A	R410A
	Refrigerant volume	kg	4.3	4.8	5.0	5.2	7.2	4.5+4.5
	Refrigerant Control		EEV	EEV	EEV	EEV	EEV	EEV
Sound pressure level		dB(A)	71.5	71.5	71.2	71.5	71.8	76.9
Ambient temperature			16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C
Net Weight		kg	228	243	338	341	449	490
Gross Weight		kg	233	248	348	352	469	510
Net Dimension	WxHxD	mm	1475x840x1130	1475x840x1130	1475x1260x1130	1475x1260x1130	1965x1260x1130	1965x1260x1130
Packing	WxHxD	mm	1495x850x1150	1495x850x1150	1495x1270x1150	1495x1270x1150	1985x1270x1150	1985x1270x1150
Shipping	Qty/Per 20'/40'/40'HQ		12/24/48	12/24/48	7/16/32	7/16/32	6/12/24	6/12/24

Nominal ton		(Ton)	17.5	20	25	30	35	40	45
ZERO MODEL			ZPRV61CYT	ZPRV70CYT	ZPRV87CYT	ZPRV105CYT	ZPRV122CYT	ZPRV140CYT	ZPRV156CYT
Cooling 1	Cooling Capacity	Btu/h	208000	240000	300000	360000	416000	478000	532000
		kW	61	70	87	105	122	140	156
	Power Input	kW	21	23.1	32.7	38.7	43.6	48	51.8
	EER 1	Btu/h.W	9.9	10.4	9.2	9.3	9.5	10	10.3
Cooling 2	Cooling Capacity	Btu/h	170000	200000	252000	305000	359000	427000	455000
		kW	50	59	74	89	105	125	133
	Power Input	kW	21.5	25	33.8	40.2	46.2	53.8	55
	EER 2	Btu/h.W	7.9	8	7.5	7.6	7.8	7.9	8.3
Max. input consumption		kW	28.4	31.2	44.2	52.3	58.9	64.8	73.8
Max. current		A	92	101	143	169.3	190.7	209.8	239
Indoor fan air flow		CFM	7600	7600	11200	11200	13000	16600	16600
ESP		Pa	200	200	320	320	370	430	430
Indoor fan	Type/Drive Type		Centrifugal/Belt						
Compressor	Type		Rotor	Rotor	Scroll	Rotor	Rotor	Scroll	Scroll
	Quantity		2	2	2	4	4	4	4
Outdoor Fan	Type/Drive Type		Propeller/Direct						
Refrigerant	Type		R410A						
	Refrigerant volume	kg	5.5+5.5	6.7+6.7	7.6+7.6	4.3+4.3+4.3+4.3	5.8+5.8+5.8+5.8	7+7+7+7	7+7+7+7
	Refrigerant Control		EEV						
Sound pressure level		dB(A)	76	75.3	76.8	77.9	79.6	81.2	81.2
Ambient temperature			16° C-52° C						
Net Weight		kg	613	688	935	950	1285	1355	1355
Gross Weight		kg	643	718	965	980	1315	1385	1385
Net Dimension	WxHxD	mm	2200x1260x1670	2200x1260x1670	2200x1260x2320	2200x1260x2320	2200x1260x3890	2200x1260x3890	2200x1260x3890
Packing	WxHxD	mm	2220x1270x1690	2220x1270x1690	2220x1270x2340	2220x1270x2340	2220x1280x3910	2220x1280x3910	2220x1280x3910
Shipping	Qty/Per 20'/40'/40'HQ		3/7/14	3/7/14	2/5/10	2/5/10	1/3/6	1/3/6	1/3/6

Notes:

- Cooling capacity test condition (1): Outdoor ambient temperature: 35° C, indoor temperature 26.7° C DB/19.4° C WB;
- Cooling capacity test condition (2): Outdoor ambient temperature: 46° C, indoor temperature: 26.7° C DB, 19.4° C WB;
- Heating capacity test condition : Outdoor ambient temperature: 7° C DB/6° C WB, indoor temperature 20° C DB/ 15° C WB;
- Units are suitable for operation to ± 20% of nominal CFM;
- Sound values are measured in a semi-anechoic room, at a position 1 meter in front of the unit and (1 meter+Height of unit)/2 above the floor.
- Specifications are subject to change without prior notice for product improvement.
- * Nominal ton only for reference.
- Cooling or heating capacity as per specifications.

208~230V,3PH,60Hz INVERTER HEAT PUMP- STANDARD R410a

Nominal Ton		(Ton)	6.2	7.5	8.5	10	12.5	15
ZERO Model			ZPRV22HPCYT	ZPRV26HPCYT	ZPRV30HPCYT	ZPRV35HPCYT	ZPRV43HPCYT	ZPRV53HPCYT
Cooling 1	Cooling Capacity	Btu/h	75000	89000	103000	120000	150000	180000
		kW	22	26	30	35	43	53
	Power Input	kW	6.8	8	9.8	11.8	14.8	17.8
	EER 1	Btu/h.W	11	11.1	10.5	10.2	10.1	10.1
Cooling 2	Cooling Capacity	Btu/h	61500	71000	84000	98400	125000	155000
		kW	18	21	25	29	37	45
	Power Input	kW	7.6	8.8	10.5	12.5	15.7	19.2
	EER 2	Btu/h.W	8.1	8.1	8	7.9	8	8.1
Heating	Heating Capacity	Btu/h	76400	91400	109100	124900	156000	187000
		kW	22.4	26.8	32	36.6	45.7	54.8
	Power Input	kW	6.6	7.6	9.7	11.1	14.3	17
	COP	Btu/h.W	11.6	12	11.2	11.3	10.9	11
Max. input consumption		kW	9.2	10.8	13.3	16	20	24.1
Max. current		A	30.2	35.7	43.8	51.8	64.7	78
Indoor fan air flow		CFM	2800	2800	3500	3500	5500	5500
ESP		Pa	80	80	110	110	130	130
Indoor fan	Type/Drive Type		Centrifugal/Direct	Centrifugal/Direct	Centrifugal/Belt	Centrifugal/Belt	Centrifugal/Belt	Centrifugal/Belt
Compressor	Type		Rotor	Rotor	Rotor	Rotor	Scroll	Rotor
	Quantity		1	1	1	1	1	2
Outdoor Fan	Type/Drive Type		Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct	Propeller/Direct
Refrigerant	Type		R410A	R410A	R410A	R410A	R410A	R410A
	Refrigerant volume	kg	4.3	4.8	5.0	5.2	7.2	4.5+4.5
	Refrigerant Control		EEV	EEV	EEV	EEV	EEV	EEV
Sound pressure level		dB(A)	71.5	71.5	71.2	71.5	71.8	76.9
Ambient temperature	Cooling		16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C	16° C-52° C
	Heating		-10° C-24° C	-10° C-24° C	-10° C-24° C	-10° C-24° C	-10° C-24° C	-10° C-24° C
Net Weight		kg	233	248	346	349	459	500
Gross Weight		kg	238	253	356	360	479	520
Net Dimension	WxHxD	mm	1475x840x1130	1475x840x1130	1475x1260x1130	1475x1260x1130	1965x1260x1130	1965x1260x1130
Packing	WxHxD	mm	1495x850x1150	1495x850x1150	1495x1270x1150	1495x1270x1150	1985x1270x1150	1985x1270x1150
Shipping	Qty/Per 20'/40'/40'HQ		12/24/48	12/24/48	7/16/32	7/16/32	6/12/24	6/12/24

Nominal Ton		(Ton)	17.5	20	25	30	35	40	45
ZERO Model			ZPRV61HPCT	ZPRV70HPCYT	ZPRV87HPCYT	ZPRV105HPCYT	ZPRV122HPCYT	ZPRV140HPCYT	ZPRV156HPCYT
Cooling 1	Cooling Capacity	Btu/h	208000	240000	300000	360000	416000	478000	532000
		kW	61	70	87	105	122	140	156
	Power Input	kW	21	23.1	32.7	38.7	43.6	48	51.8
	EER 1	Btu/h.W	9.9	10.4	9.2	9.3	9.5	10	10.3
Cooling 2	Cooling Capacity	Btu/h	170000	200000	252000	305000	359000	427000	455000
		kW	50	59	74	89	105	125	133
	Power Input	kW	21.5	25	33.8	40.2	46.2	53.8	55
	EER 2	Btu/h.W	7.9	8	7.5	7.6	7.8	7.9	8.3
Heating	Heating Capacity	Btu/h	209800	248400	311800	374000	420000	497000	553000
		kW	61.5	72.8	91.4	109.6	123	145.6	162
	Power Input	kW	19.5	22.3	31.7	37.6	41.2	46.4	50
	COP	Btu/h.W	10.7	11.1	9.8	10	10.2	10.7	11.1
Max. input consumption		kW	28.4	31.2	44.2	52.3	58.9	64.8	73.8
Max. current		A	92	101	143	169.3	190.7	209.8	239
Indoor fan air flow		CFM	7600	7600	11200	11200	13000	16600	16600
ESP		Pa	200	200	320	320	370	430	430
Indoor fan	Type/Drive Type		Centrifugal/Belt						
Compressor	Type		Rotor	Rotor	Scroll	Rotor	Rotor	Scroll	Scroll
	Quantity		2	2	2	4	4	4	4
Outdoor Fan	Type/Drive Type		Propeller/Direct						
Refrigerant	Type		R410A						
	Refrigerant volume	kg	5.5+5.5	6.7+6.7	7.6+7.6	4.3+4.3+4.3+4.3	5.8+5.8+5.8+5.8	7+7+7+7	7+7+7+7
	Refrigerant Control		EEV						
Sound pressure level		dB(A)	76	75.3	76.8	77.9	79.6	81.2	81.2
Ambient temperature	Cooling		16° C-52° C						
	Heating		-10° C-24° C						
Net Weight		kg	625	700	955	970	1310	1380	1380
Gross Weight		kg	655	730	985	1000	1340	1410	1410
Net Dimension	WxHxD	mm	2200x1260x1670	2200x1260x1670	2200x1260x2320	2200x1260x2320	2200x1260x3890	2200x1260x3890	2200x1260x3890
Packing	WxHxD	mm	2220x1270x1690	2220x1270x1690	2220x1270x2340	2220x1270x2340	2220x1280x3910	2220x1280x3910	2220x1280x3910
Shipping	Qty/Per 20'/40'/40'HQ		3/7/14	3/7/14	2/5/10	2/5/10	1/3/6	1/3/6	1/3/6

Notes:
 1. Cooling capacity test condition (1): Outdoor ambient temperature: 35° C, indoor temperature 26.7° C DB/19.4° C WB;
 Cooling capacity test condition (2): Outdoor ambient temperature: 46° C, indoor temperature: 26.7° C DB, 19.4° C WB;
 Heating capacity test condition : Outdoor ambient temperature: 7° C DB/6° C WB, indoor temperature 20° C DB/ 15° C WB;
 2. Units are suitable for operation to ± 20% of nominal CFM;
 3. Sound values are measured in a semi-anechoic room, at a position 1 meter in front of the unit and (1 meter+Height of unit)/2 above the floor.
 4. Specifications are subject to change without prior notice for product improvement.
 5. * Nominal ton only for reference.
 6. Cooling or heating capacity as per specifications.



In God We Trust

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