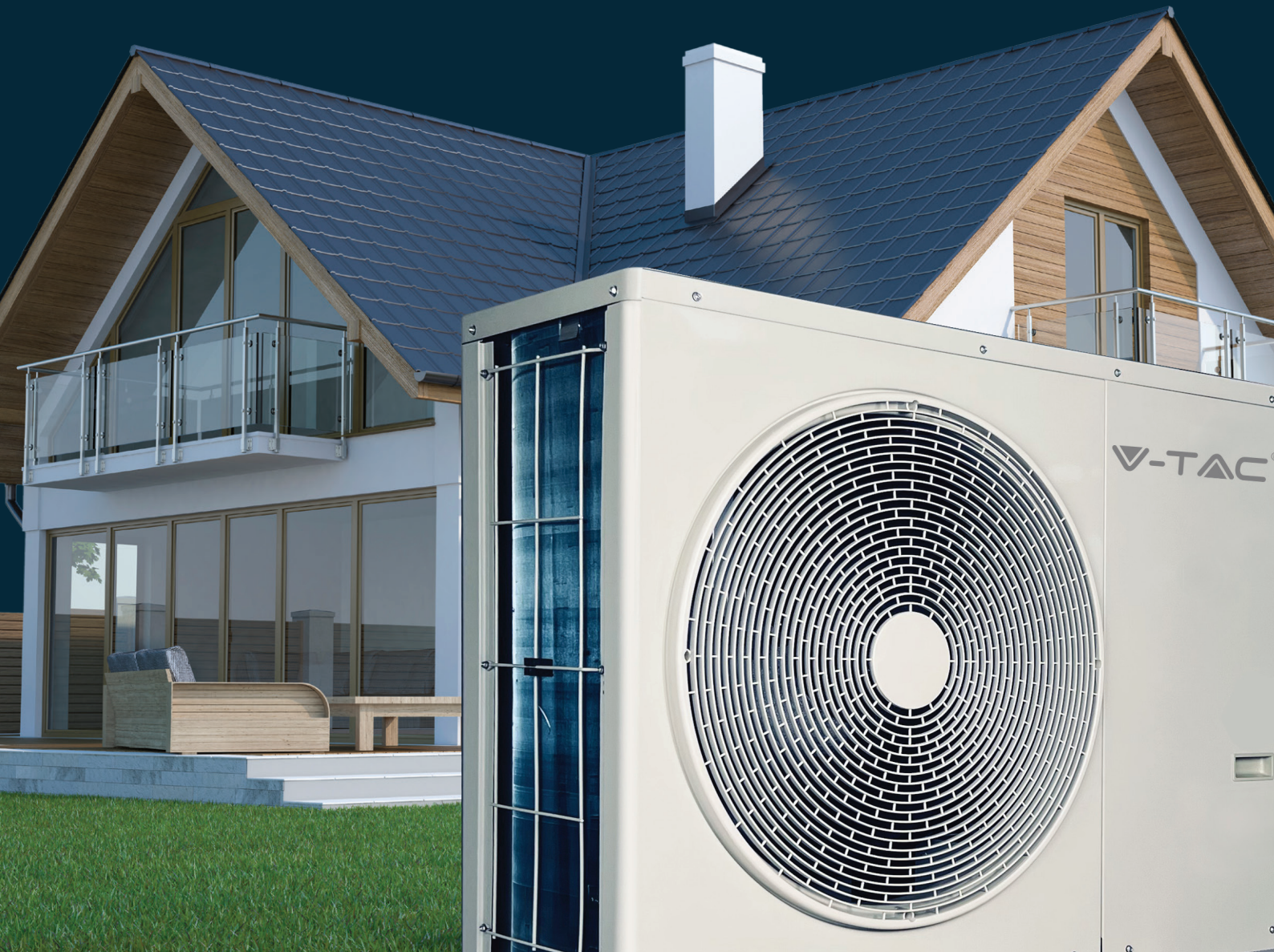


# V-TAC

Meaningful Innovation.

# HEAT PUMP ENERGY

TODAY'S SAVINGS,  
TOMORROW'S BENEFIT





WELCOME TO

**V-TAC**



SOLD IN OVER  
**70** COUNTRIES

**V-TAC** Lighting

**V-TAC** Digital

**V-TAC** Audio

**V-TAC** Solar

**V-TAC** Electrical

**V-TAC** Smart

**V-TAC** Energy

Founded in 2009, V-TAC was developed and designed to not only bring sustainable LED lighting solutions to your homes but to also keep adding value to energy-efficient solutions covering more than 70 countries throughout Europe, Asia Pacific, Africa, Middle East, and the USA. As a result of our relentless pursuit of excellence, we have been listed in the London Stock Exchange Group's 1000 Companies to Inspire Europe. We believe in offering high quality LED solutions while keeping innovation at the core of everything we do. Boasting a portfolio of over 2500 lighting products, V-TAC has utilized its brand value and R&D efforts into innovating beyond lighting solutions into categories like smart home solutions and wireless speakers. The six new product branches under the V-TAC brand has enabled us to successfully expand our portfolio to more than 4200 products. We are committed to our business & are our constantly evolving to better serve our customers.

As a logical next step after our introduction of Solar Panels we have taken our next step in our sustainable development by introducing a full range of Air-to-water (ATW) Heat Pumps.

V-Tac believes in the transition which started with the Paris Agreement in 2015 which aims to achieve zero emissions by the second half of the century;

- Most of the EU will be carbon neutral by 2050
- 129 countries around the world are involved in carbon neutrality, this is a global energy revolution
- The core path of carbon neutrality: reducing fossil energy, developing renewable energy, improving energy efficiency

Heat pump heating has produced irreversible advantages over the traditional gas boiler heating method. Therefore V-TAC has developed a range of Heat Pumps which covers most of the demands in your local markets. "Today's savings, tomorrow's benefit".



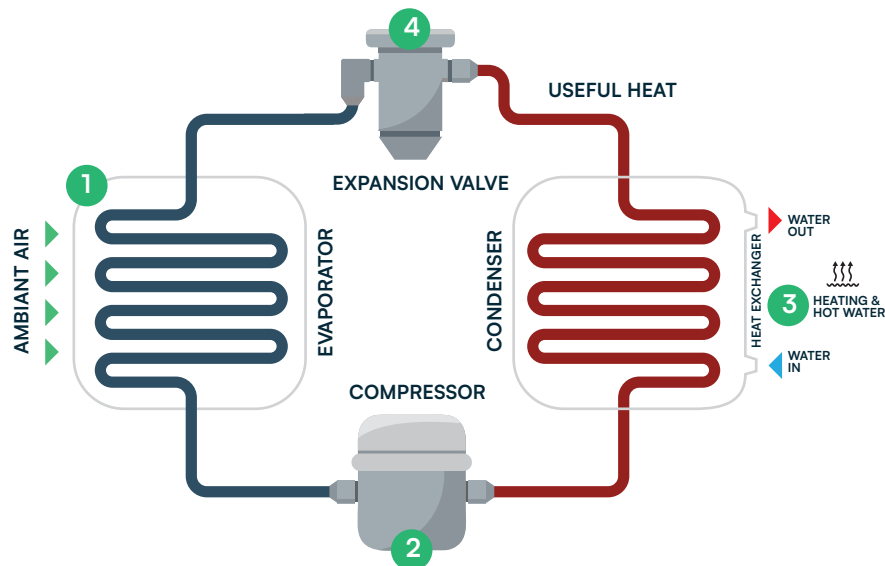
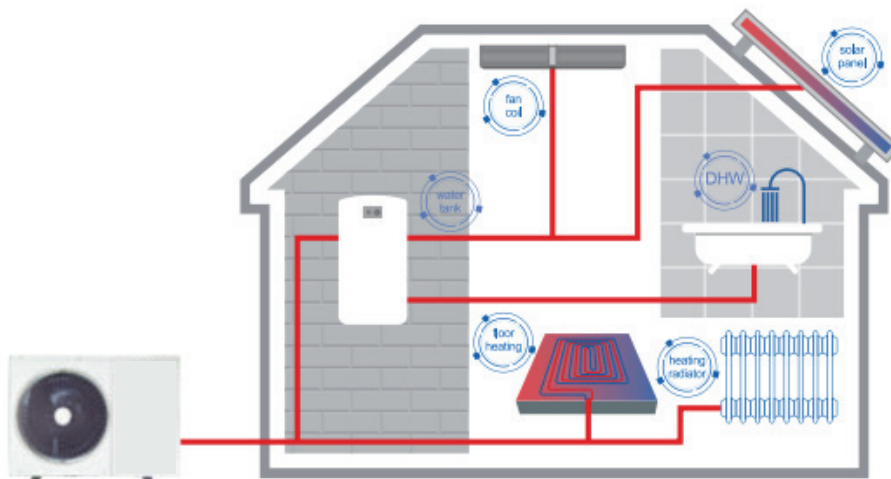
## TABLE OF CONTENT

HOW DO HEAT PUMPS WORK?	03
WHY ARE HEAT PUMPS SO IMPORTANT?	05
HEAT PUMP TECHNOLOGY AND TERMS	06
V-TAC HEAT PUMPS	07
HEAT PUMP FACTS	08



Heat pumps are a proven technology that have been used for decades to efficiently provide heating, cooling, and in some cases, hot water to buildings. In fact, it is likely that you interact with heat pump technology on a daily basis: refrigerators and air conditioners operate using the same principles and technology.

## HOW DO HEAT Pumps ACTUALLY WORK?



### 1. CAPTURE

The fan passes ambient air over extremely cold liquid refrigerant. The refrigerant captures the heat from the ambient air and becomes a warm vapour.

### 2. COMPRESS

The warm refrigerant vapour passes through a compressor which produces hot refrigerant and usable heat.

### 3. EXCHANGE

The heat in the hot refrigerant is then transferred to the heating and hot water cylinder through a heat exchanger.

### 4. EXPAND

Once the heat has been transferred to the house, the refrigerant passes through an expansion valve which reduces its temperature, making it really cold again and enabling it to capture heat from the ambient air, continuing the cycle.

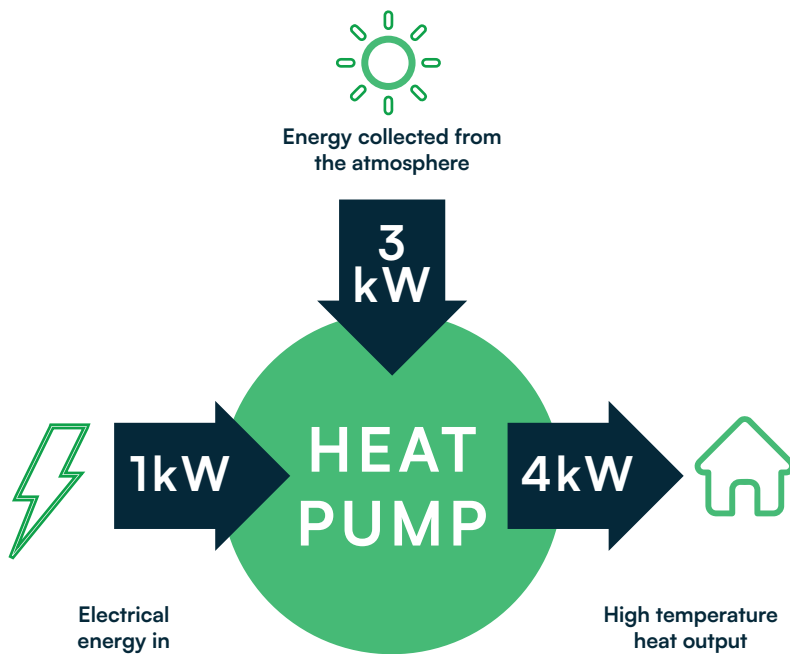


A heat pump is an electrically driven device that extracts heat from a low temperature place (a source), and delivers it to a higher temperature place (a sink).

Heat naturally flows from places with higher temperature to locations with lower temperatures (e.g., in the winter, heat from inside the building is lost to the outside). A heat pump uses additional electrical energy to counter the natural flow of heat, and pump the energy available in a colder place to a warmer one.

The heat pump draws heat from the outside air during the heating season and rejects heat outside during the summer cooling season. It may be surprising to know that even when outdoor temperatures are cold, a good deal of energy is still available that can be extracted and delivered to the building. For example, the heat content of air at  $-18^{\circ}\text{C}$  equates to 85% of the heat contained at  $21^{\circ}\text{C}$ . This allows the heat pump to provide a good deal of heating, even during colder weather.

Heat pumps are a highly efficient, eco-friendly way of providing heating and hot water, by taking “free energy” from the air or via a refrigerant cycle they generate heat without releasing any carbon emissions.



The COP measures how efficient a heat pump performs by comparing the amount of electricity it uses to the amount of heat it is able to produce. For example, when a heat pump uses 3kW of energy from the atmosphere, it will produce 4kW of heat and therefore have a COP of 4. The higher the COP, the more energy is generated per unit of electricity and the more efficient is the heat pump.



## WHY HEAT PUMP ENERGY IS IMPORTANT?

There's a reason why so many homeowners and businesses are turning to air to water(ATW). The benefits are undeniable, and not just for individuals, but for the planet as a whole. Here are just a few of the many reasons that support the importance of Heat Pump Energy

### IT'S GOOD FOR THE ENVIRONMENT

The difference between Heat Pump Energy and conventional electricity is that Heat Pump Energy does not rely on the use of fossil fuels, does not pollute air or water, making it the preferable option for many. Heat Pump Energy works with the earth's natural resources, whereas conventional electricity depletes or harms them.

### IT'S A RELIABLE, COST-EFFECTIVE ENERGY SOURCE

Air source HP transfer the heat from the air (it can also use solar and PV). For that reason, Heat Pump Energy is highly reliable. And unlike fossil fuels which are expensive to mine and utilize, it doesn't cost anything to receive sunlight. A one-time installation of solar equipment is all that's needed to reap the benefits

### IT SAVES YOU MONEY IN THE LONG RUN

Though the cost of installing air source HP system has decreased in recent years, some may still find the initial investment in Heat Pump Energy to be intimidating. However, the key is remembering that an installation is a one-time event, whereas paying for conventional electricity is a frequent, ongoing, and expensive obligation, especially as electric rates continue to rise. Making the investment in running your home or building off of Heat Pump Energy will save you considerably more money over time.

### IT PROMOTES ENERGY INDEPENDENCE

Energy independence means not having to rely on the power grid. Not only does this method make you vulnerable to price spikes, but it's also prone to outages. Solar source is usually the auxiliary source, not the main power input. With no other means of powering your home, you could run into a variety of issues in the event of bad weather or damage to power lines. Using Heat Pump Energy, especially when paired with a backup battery system, allows you to not be tied to unreliable power grids when you need energy most.



## HEAT PUMP TECHNOLOGY & TERMS

A variety of efficiency metrics are used in brochures, which can make understanding system performance somewhat confusing for a first time buyer or installer. Below is a breakdown of some commonly used efficiency terms:

**Steady-State Metrics:** These measures describe heat pump efficiency in a 'steady-state,' i.e., without real-life fluctuations in season and temperature. As such, their value can change significantly as source and sink temperatures, and other operational parameters, change.

Steady state metrics include:

**Coefficient of Performance (COP):** The COP is a ratio between the rate at which the heat pump transfers thermal energy (in kW), and the amount of electrical power required to do the pumping (in kW). For example, if a heat pump used 1kW of electrical energy to transfer 4 kW of heat, the COP would be COP 4. V-TAC heat pumps do have a COP up to 5 for the 10kW monobloc version.

**Energy Efficiency Ratio (EER):** The EER is similar to the COP, and describes the steady-state cooling efficiency of a heat pump. It is determined by dividing the cooling capacity of the heat pump in Btu/h by the electrical energy input in Watts (W) at a specific temperature. EER is strictly associated with describing the steady-state cooling efficiency, unlike COP which can be used to express the efficiency of a heat pump in heating as well as cooling.

**Seasonal Performance Metrics:** These measures are designed to give a better estimate of performance over a heating or cooling season, by incorporating "real life" variations in temperatures across the season.

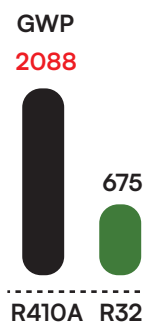
**Seasonal Energy Efficiency Ratio (SEER):** SEER measures the cooling efficiency of the heat pump over the entire cooling season. It is determined by dividing the total cooling provided over the cooling season (in Btu) by the total energy used by the heat pump during that time (in Watt-hours). The SEER is based on a climate with an average summer temperature of 28°C.

## HEAT PUMP SYSTEM COMPONENTS

V-TAC uses the best brands available in the market enabling the heat pumps to have the best performance during their lifetime. V-TAC guarantees a period of 5 years on all of its heat pumps.

The refrigerant is the fluid that circulates through the heat pump, alternately absorbing, transporting and releasing heat. Depending on its location, the fluid may be liquid, gaseous, or a gas/vapour mixture. The heat pumps of V-TAC use the R32 refrigerant.

- R32 creates no damage to the ozone layer
- R32 has got a low greenhouse effect coefficient
- Compared with R410A, R32 heating capacity is higher and stronger, which reduces the amount of refrigerant used





The reversing valve controls the direction of flow of the refrigerant in the heat pump and changes the heat pump from heating to cooling mode or vice versa.

A coil is a loop, or loops, of tubing where heat transfer between the source/sink and refrigerant takes place. The tubing may have fins to increase the surface area available for heat exchange.

The evaporator is a coil in which the refrigerant absorbs heat from its surroundings and boils to become a low-temperature vapour. As the refrigerant passes from the reversing valve to the compressor, the accumulator collects any excess liquid that did not vaporize into a gas. Not all heat pumps, however, have an accumulator.

The compressor squeezes the molecules of the refrigerant gas together, increasing the temperature of the refrigerant. This device helps to transfer thermal energy between the source and sink.

The condenser is a coil in which the refrigerant gives off heat to its surroundings and becomes a liquid.

The expansion device lowers the pressure created by the compressor. This causes the temperature to drop, and the refrigerant becomes a low-temperature vapour/liquid mixture.



The outdoor unit is where heat is transferred to/from the outdoor air in an air-to-water heat pump. This unit generally contains a heat exchanger coil, the compressor, and the expansion valve. It looks and operates in the same manner as the outdoor portion of an air-conditioner.

### Other Terms

Units of measurement for capacity, or power use:

A kW, or kilowatt, is equal to 1000 watts. This is the amount of power required by ten 100-watt light bulbs.

A ton is a measure of heat pump capacity. It is equivalent to 3.5 kW or 12,000 Btu/h.

## V-TAC HEAT PUMPS

V-Tac has created a full range of Air-to-Water heat pumps:

- Monobloc type house heat pump
- Split type house heating heat pump
- All-in-One sanitary hot water heat pump

Our monobloc and split unit range is available in kW versions covering most of the demand of the B-2-C market.

**RANGE PORTFOLIO**

**Monoblock range R32 + Electric Back-up Heater**

Model (kW)	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW	16 kW
220V-240V - 1 phase - including electric back-up heater 3kW	✓	✓	✓	✓	✓	✓	✓
380V-415V - 3 phase - including electric back-up heater 9kW					✓	✓	✓

**Split unit range R32 + Electric Back-up Heater**

Model (kW)	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW	16 kW
220V-240V - 1 phase - including electric back-up heater 3kW	✓	✓	✓	✓	✓	✓	✓
380V-415V - 3 phase - including electric back-up heater 9kW					✓	✓	✓



**5 YEAR WARRANTY**

The V-TAC range is having an extended period of guarantee of 5 years on the complete module

Our all-in-one range will be available in the following versions:

All in one unite range R134A				
	Model (kW)	200 litre	250 litre	300 litre
✓ 200 litre				
✓ 250 litre				
✓ 300 litre	220V-240V	✓	✓	✓

The V-TAC range does have a well balanced composition of the most famous and thrust worthy elements available in the industry. Some of the brands used are:

Compressor	<b>Mitsubishi</b>
Motor	<b>Panasonic</b>
Heat Exchanger	<b>Alfa Laval</b>

All of our monobloc's and split units do have an integrated electric back-up heater of 3kW (1 phase) or 9kW (3 phase) covering the required capacity to also function in very low ambient temperatures.



### HEAT PUMP FACTS



#### R32 refrigerant

R32 refrigerant efficiently works even in small volume compared to existing R410 refrigerant, which decreases the potential hazard of global warming. Furthermore, R32 refrigerant is easy to recycle.



#### Hybrid function

The V-TAC monobloc heat pump series are designed to replace traditional energy sources like oil & gas boilers and are developed to cooperate together with them or new sources like Solar energy.



#### Low noise

The 2 levels of silent modes provide more comfort.



#### Wi-Fi Standard

Through the smart Wi-Fi management, you get to create the environment you desire, from anywhere. Free download the Tuya controlled app from Google play/App Store and save energy operating your appliance through your smartphone or tablet.



ERP A+++@35°C

#### A+++ Energy Class

The technological superiority of inverter heat pumps guarantees impeccable performance with the smallest functional costs. Benefit from the A+++ (35 degrees Celsius) and A++ (55 degrees Celsius) heating-warm zone) and save energy, creating the atmosphere you require.



@A7W35 for 10kW

#### High efficiency even with low ambient temperatures

The heat pumps, thanks to their special design, with supply temperature up to 65 degrees Celsius for connection to heating radiators, offer cooling, heating as well as hot water production at the same time. Their smooth operation is ensured even at extreme outdoor temperatures that reach down to -25 degrees Celsius.



#### Holiday Mode

The Holiday function is used to deviate from regular set modes and schedules



#### Floor protection

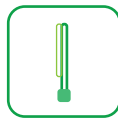
Protect your home floor by activating the Floor Preheating function which slowly increases the heating temperature of the floor coils, avoiding possible floor damaging and transitioning smoothly to the heating function. The Floor Drying Up function provides an additional solution to the installer as it helps remove any residual moisture from newly installed floor coils, further protecting the installation and ensuring the optimal and effective operation of the heat pump.



2 Zones control

#### Control zones & Plate Heat Exchanger

Equipped with a resilient plate heat exchanger of high thermal transfer coefficient, inverter heat pumps provide energy savings and ensure long and stellar operation. For different indoor terminal units, the leaving water temperature is different. The 2-zone control function is used to ensure different indoor terminal units working at its design tempo to enhance the comfort and to save energy.



#### 3 kW electric back-up heater as standard

The Heat pump series of V-TAC have a 3kW electric back-up heater as standard for the 1-phase units and a 9kW electric back-up heater for the 3-phase units enabling the Heat Pump to operate when ambient temperature drops below the point of its capacity, the back-up heater supplies the required additional heating to have warm water and to provide high efficiency and stellar heating conditions quickly and effectively also with low ambient temperatures.



#### Ultimate Central Control

The heat pumps are equipped with a touch wired controller for an even easier usage of your appliance, offering access to an important number of functions. The wire controlled display can be used in multiple languages and has mod-bus control, a built in Wi-Fi module which supports app-control and checks the running state of the heat pump, zone switch, operating mode and temperature.

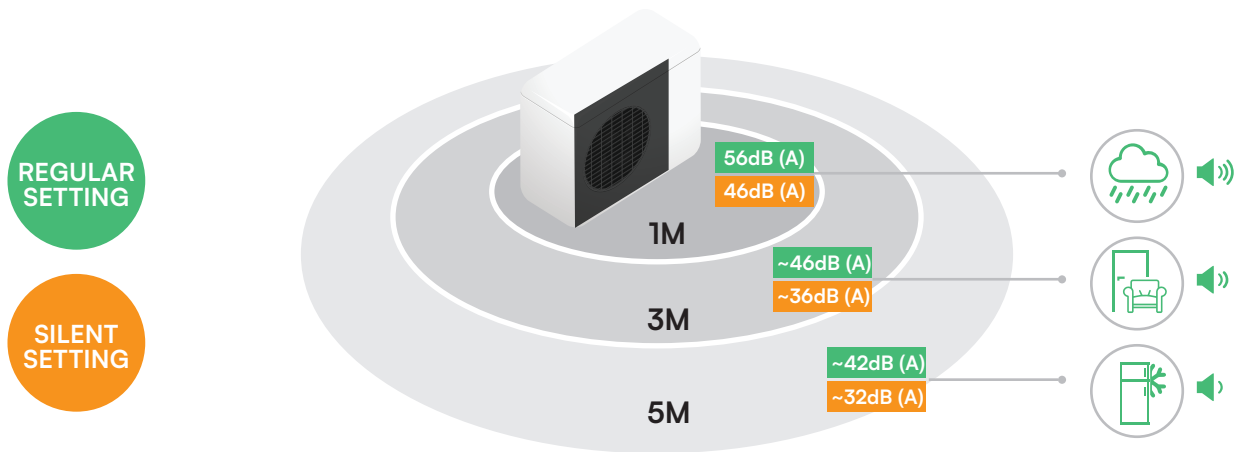


#### Auto Mode

The heat pump will prioritize DHW production or heating function according to your needs and settings.



## SOUND POWER DATA



Sound emission from V-TAC 4 kW heat pump

The V-TAC series of mono block and split units do have 2 settings:

- Regular setting; sound power as stated in the technical specifications
- Silent setting

## SOUND POWER & SOUND PRESSURE

The noise levels produced by an air conditioner and heat pump are often described by manufacturers using what is known as "Sound Pressure Levels" and "Sound Power Levels".

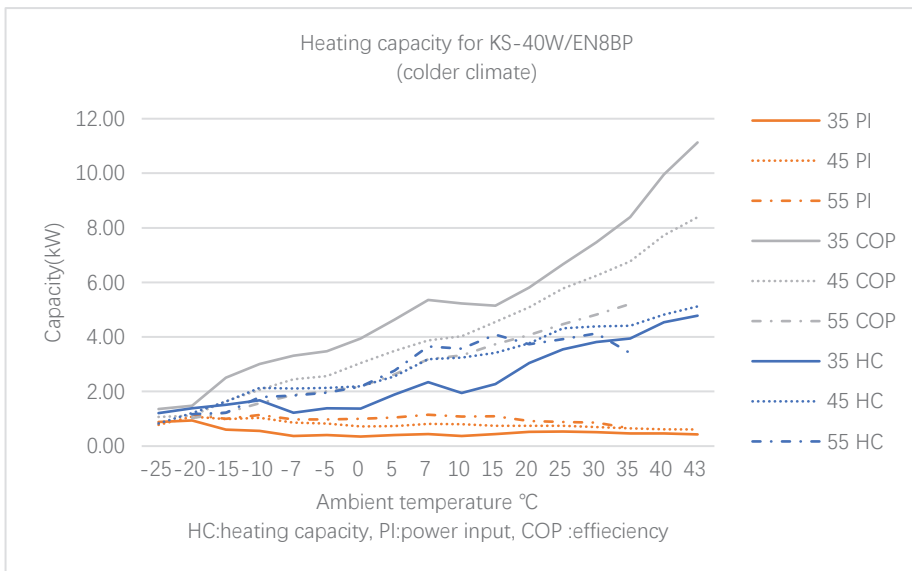
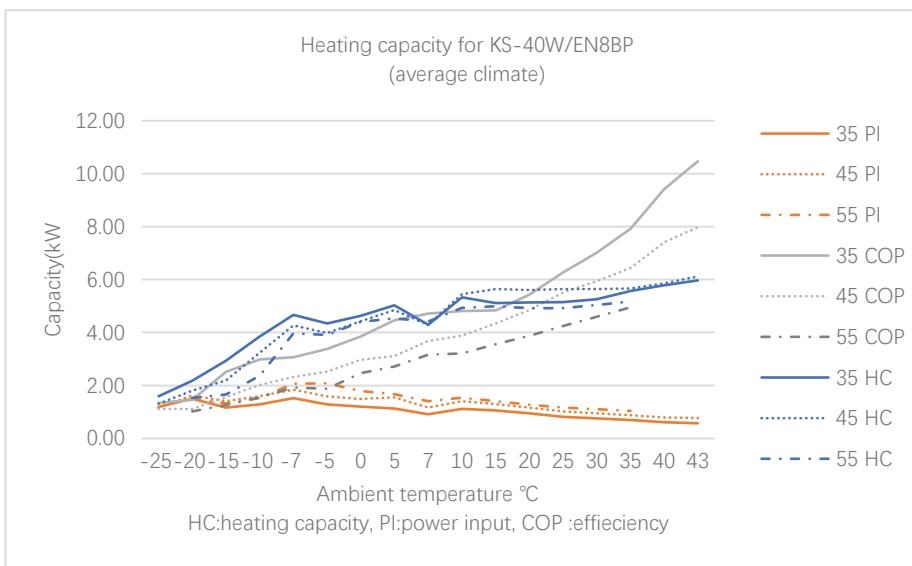
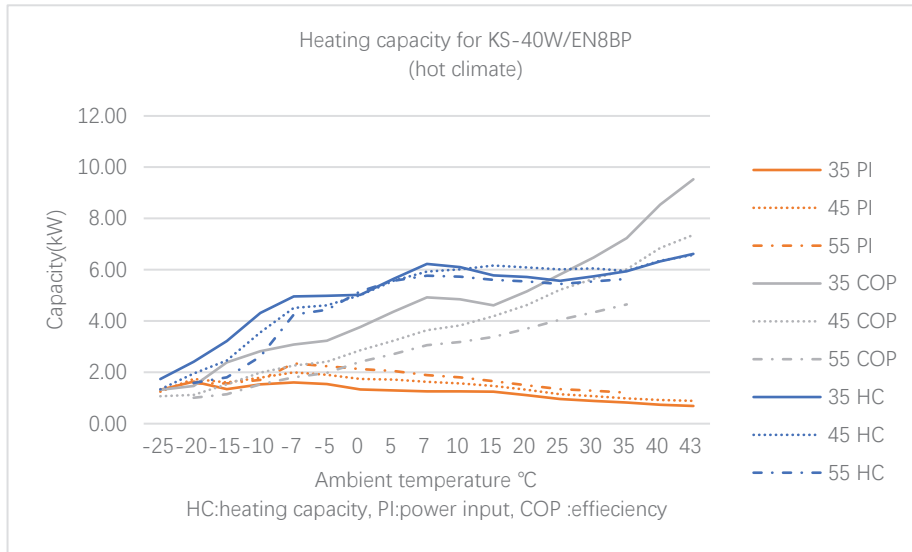
The Sound Power Level is a measure of the acoustic energy emitted from a source of noise, expressed in decibels. The Sound Pressure Level is the pressure disturbance in the atmosphere measured using predefined conditions such as the location of the equipment, the environmental conditions, and the distance of the measurement from the measurement point.

Sound Pressure is ultimately what our ears hear.

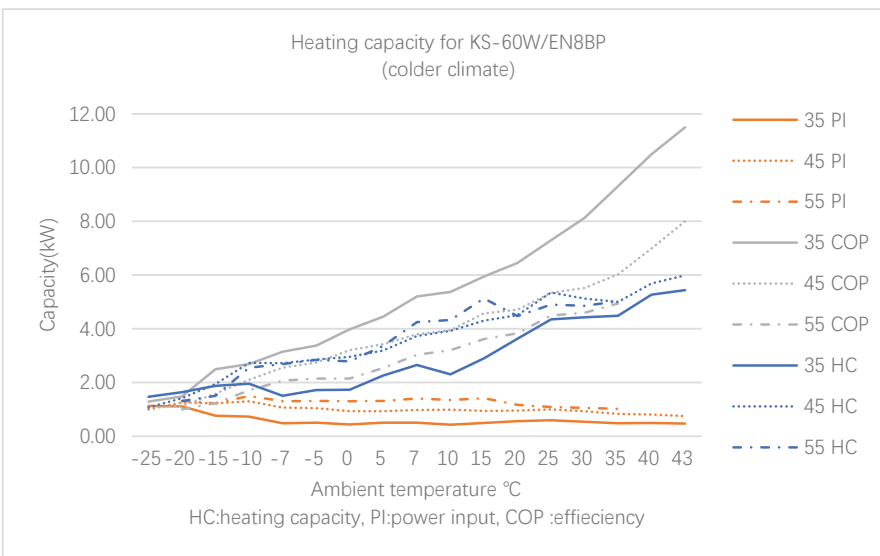
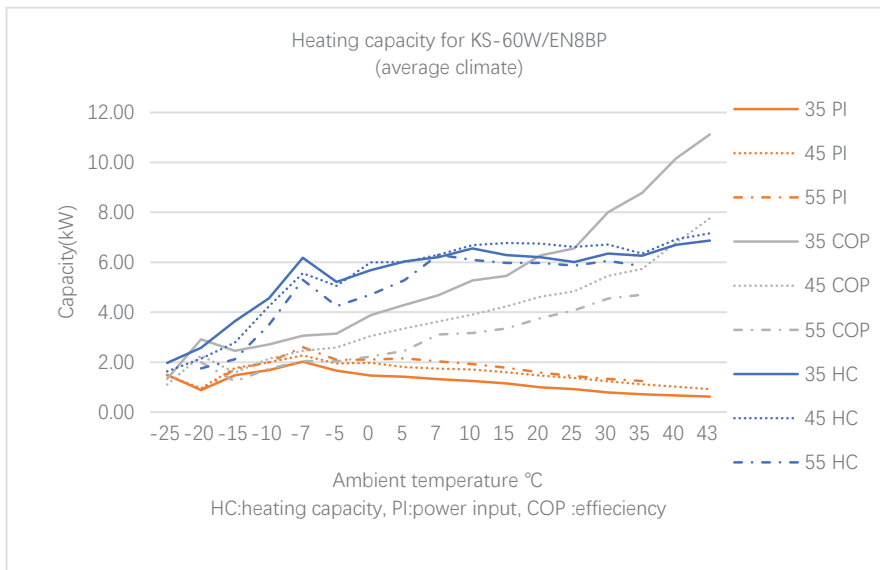
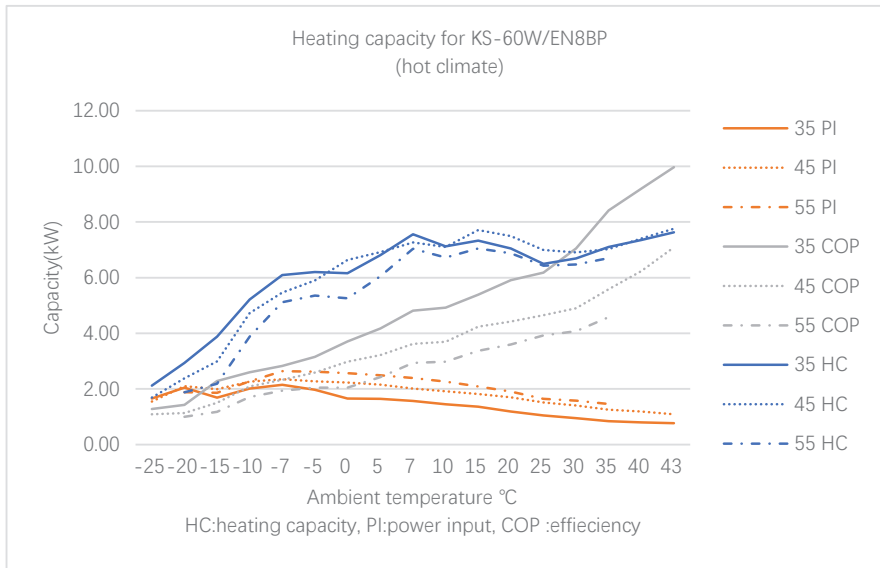
Due to the difference in these measurements, if you are using these to help you decide on your preferred ATW solution, it is important to make sure you are comparing the same measurement for an accurate comparison of these factors.

Please note all noise data we provided are Sound power level





**TECHNICAL FEATURES:**







## MONOBLOC SERIES TECHNICAL FEATURES

V-TAC Model name			4 kW	6 kW	8 kW	10 kW	12 kW	14 kW	16 kW	12 kW	14 kW	16 kW
Electrical back-up Heater specs			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power supply		V / Ph / H	220-240 / 1 / 50						380-415 / 3			
Heating 1	Capacity	kW	3.96	6.01	7.9	10.20	12.10	14.50	15.90	12.10	14.50	15.90
	Rated input	kW	0.75	1.17	1.75	2.04	2.57	3.05	3.45	2.57	3.05	3.45
	COP		5.25	5.13	4.51	5.01	4.70	4.75	4.61	4.70	4.75	4.61
Heating 2	Capacity	kW	4.18	6.04	8.30	10.20	12.10	14.50	15.90	12.10	14.50	15.90
	Rated input	kW	1.11	1.63	2.61	2.79	3.36	3.89	4.63	3.36	3.89	4.63
	COP		3.77	3.70	3.18	3.65	3.60	3.72	3.43	3.60	3.72	3.43
Heating 3	Capacity	kW	4.14	6.09	7.60	9.60	12.10	13.80	15.80	12.10	13.80	15.80
	Rated input	kW	1.46	2.13	2.96	3.22	4.11	4.42	6.12	4.11	4.42	6.12
	COP		2.84	2.86	2.57	2.85	2.94	3.12	2.58	2.94	3.12	2.58
Cooling 4	Capacity	kW	3.98	6.18	8.1	10.1	11.90	13.50	15.7	11.90	13.50	15.7
	Rated input	kW	0.77	1.26	1.96	2.44	2.93	3.25	4.02	2.93	3.25	4.02
	EER		5.19	4.91	4.13	4.14	4.06	4.15	3.90	4.06	4.15	3.90
Cooling 5	Capacity	kW	4.29	6.27	7.50	8.70	10.30	12.70	15.90	10.30	12.70	15.90
	Rated input	kW	1.32	1.99	2.57	2.94	4.09	4.79	6.09	4.09	4.79	6.09
	EER		3.24	3.14	2.92	2.96	2.52	2.65	2.61	2.52	2.65	2.61
Seasonal space heating energy efficiency class	LWT at 35°C		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55°C		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
SCOP	LWT at 35°C		4.96	5.05	4.56	5.02	4.65	4.65	4.55	4.65	4.65	4.55
	LWT at 55°C		3.47	3.52	3.32	3.51	3.37	3.45	3.36	3.37	3.45	3.36
SEER	LWT at 7°C		5.15	5.27	4.53	4.61	4.58	4.76	4.5	4.58	4.76	4.5
	LWT at 18°C		8.56	8.77	6.51	6.55	6.53	6.72	6.5	6.53	6.72	6.5
MOP(Maximum overcurrent protection)	A		18	18	21	25	25	30	30	25	30	30
MCA(minimum circuit amps)	A		12	14	16	19	23	26	27	23	26	27
Water pressure drop	kPa		25	25	39	37	36	38	38	36	38	38
Refrigerant system pressure (Max. / Min.)			4.5MPa / 1.5MPa									
Refrigerant	Type		R32	R32	R32	R32	R32	R32	R32	R32	R32	R32
	Charged	kg	1.05	1.2	1.3	1.5	1.75	2.1	2.1	1.75	2.1	2.1
GWP value			675	675	675	675	675	675	675	675	675	675
Equivalent CO2	Ton		0.709	0.810	0.878	1.013	1.181	1.417	1.417	1.181	1.417	1.417
Compressor	Type		Twin rotary DC inverter									
	Brand		Mitsubishi									
	Model		SVB172FNP/PMC	SVB172FNP/PMC	SVB220FLG/MC-L	SVB220FLG/MC-L	MVB33FB/PMC	MVB42FCB/MC-L	MVB42FCB/MC-L	MVB33FB/PMC	MVB42FCB/MC-L	MVB42FCB/MC-L
	Quantity		1	1	1	1	1	1	1	1	1	
	Capacity	kW	5.54 (@60rps)	5.54 (@60rps)	7.10 (@60rps)	7.10 (@60rps)	11.37 (@60rps)	14.38 (@60rps)	14.38 (@60rps)	11.37 (@60rps)	14.38 (@60rps)	14.38 (@60rps)
	Input	kW	1.73 (@60rps)	1.73 (@60rps)	2.23 (@60rps)	2.23 (@60rps)	3.57 (@60rps)	4.4 (@60rps)	4.4 (@60rps)	3.57 (@60rps)	4.4 (@60rps)	4.4 (@60rps)
	Current	A	5.1 (@60rps)	5.1 (@60rps)	6.6 (@60rps)	6.6 (@60rps)	11 (@60rps)	13 (@60rps)	13 (@60rps)	11 (@60rps)	13 (@60rps)	13 (@60rps)
	Oil type / charged		FW68S / 600ml	FW68S / 600ml	FW68S / 460ml	FW68S / 460ml	FW68S / 1100ml	FW68S / 1250ml	FW68S / 1250ml	FW68S / 1100ml	FW68S / 1250ml	FW68S / 1250ml
Outdoor fan	Motor type		Brushless DC motor									
	Number of fans		1	1	1	1	1	1	1	1	1	1
Air side heat exchanger	Material		Hydrophilic aluminum & Inner groove copper tube									
	Rows		1.5	1.5	2	2.5	2.5	3	3	2.5	3	3
	Tube size	mm	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7	Φ7
Fan motor	Fan type		3 blade									
	Motor type		BLDC									
	Motor model		EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ	EHTSO3BLQ
	Motor Brand		Panasonic									
	Quantity		1	1	1	1	1	1	1	1	1	1
	Speed	rpm	850	850	850	850	850	825	825	850	825	825
Throttle type		Electronic expansion valve										
Water side heat-exchanger		Plate heat exchanger										
Sound power level <sub>6</sub>	dB		56	58	59	60	64	65	68	64	65	68
Sound power level (Silent mode)	dB		46	48	49	50	54	55	58	54	55	58
Controller (Standard: LCD)		GR-LC07										
Anti-UV cover		NO										
Water resistance		IPX4										
Water pipe connection	Inlet	mm	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33
	Outlet	mm	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33
Net/Gross weight	kg		76/81	78/93	80/95	88/104	97/117	117/136	117/136	97/117	117/136	117/136
Dimension (L×W×H)	Net	mm	1125×370×680	1125×370×680	1125×370×680	1135×370×803	1135×370×803	1203×435×860	1203×435×860	1135×370×803	1203×435×860	1203×435×860
	Packing	mm	1195×440×865	1195×440×865	1195×440×865	1260×488×982	1260×488×982	1305×495×1040	1305×495×1040	1260×488×982	1305×495×1040	1305×495×1040
	Loading quantity (20GP/40GP)	sets										
Operating temperature	Cooling	°C								-5 to 43		
	Heating	°C								-25 to 35		
	DHW	°C								-25 to 43		

**Note:**  
 1. Outdoor air temperature 7°C DB ,85% R.H ; EWT 30°C,LWT 35°C  
 2. Outdoor air temperature 7°C DB ,85% R.H ; EWT 40°C,LWT 45°C  
 3. Outdoor air temperature 7°C DB ,85% R.H ; EWT 47°C,LWT 55°C  
 4. Outdoor air temperature 35°C DB ,85% R.H ; EWT 23°C,LWT 18°C  
 5.Outdoor air temperature 35°C DB ,85% R.H ; EWT 12°C,LWT 7°C  
 6.Test standard:EN12102-1

### SPLIT UNIT TECHNICAL FEATURES

V-TAC Model name			4 kW	6 kW	8 kW	10 kW	12 kW	14 kW	16 kW	12 kW	14 kW	16 kW	
Electrical back-up Heater specs			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Power supply	V / Ph / H		220-240 / 1 / 50						380-415 / 3				
Refrigerant (R32) Factory charge	kg							1.84	1.84		1.84	1.84	
Heating 1	Capacity	kW						14.3	16.1		14.3	16.1	
	Rated input	kW						3.1	3.57		3.1	3.57	
	COP							4.61	4.51		4.61	4.51	
Heating 2	Capacity	kW						14.5	16		14.5	16	
	Rated input	kW						3.9	4.44		3.9	4.44	
	COP							3.72	3.6		3.72	3.6	
Heating 3	Capacity	kW						13.8	16.0		13.8	16.0	
	Rated input	kW						4.6	5.52		4.6	5.52	
	COP							3.0	2.9		3.0	2.9	
Cooling 4	Capacity	kW						13.5	14.9		13.5	14.9	
	Rated input	kW						3.75	4.38		3.75	4.38	
	EER							3.6	3.4		3.6	3.4	
Cooling 5	Capacity	kW						12.7	14.0		12.7	14.0	
	Rated input	kW						4.98	5.71		4.98	5.71	
	EER							2.55	2.45		2.55	2.45	
Seasonal space heating energy efficiency class	LWT at 35°C							A+++	A+++		A+++	A+++	
	LWT at 55°C							A++	A++		A++	A++	
SCOP	LWT at 35°C							4.75	4.63		4.75	4.63	
	LWT at 55°C							3.45	3.42		3.45	3.42	
SEER	LWT at 7°C							4.86	4.69		4.86	4.69	
	LWT at 18°C							6.8	6.75		6.8	6.75	
MOP(Maximum overcurrent protection)	A							30	30		30	30	
MCA(minimum circuit amps)	A							26	27		26	27	
Compressor	Type		Twin rotary DC inverter										
Outdoor fan	Motor type		Brushless DC motor										
	Number of fans							1	1		1	1	
Air side heat exchanger	Type		Finned tube										
Throttle type			Electronic expansion valve										
Piping connections	Type							Flare	Flare		Flare	Flare	
	Liquid Dia. (OD)	mm						Φ9.52	Φ9.52		Φ9.52	Φ9.52	
	Gas Dia. (OD)	mm						Φ15.88	Φ15.88		Φ15.88	Φ15.88	
	Min. pipe length	m						2	2		2	2	
Installation height difference"	Outdoor unit above	m						20	20		20	20	
	Outdoor unit below	m						20	20		20	20	
Sound power level6	dB							65	68		65	68	
Outdoor dimension	Net dimension (W*H*D)	mm						1118*865*523			1118*865*523		
	Packed dimension (W*H*D)	mm						1180*890*560			1180*890*560		
Indoor dimension	Net dimension (W*H*D)	mm						456*820*270			456*820*270		
	Packed dimension (W*H*D)	mm						960*525*345			960*525*345		
Net/Gross weight	kg							97/108	97/108		97/108	97/108	
Operating temperature	°C							-5 to 43			-5 to 43		
	°C							-25 to 35			-25 to 35		
	°C							-25 to 43			-25 to 43		

**Note:**

- Outdoor air temperature 7°C DB ,85% R.H ; EWT 30°C,LWT 35°C
- Outdoor air temperature 7°C DB ,85% R.H ; EWT 40°C,LWT 45°C
- Outdoor air temperature 7°C DB ,85% R.H ; EWT 47°C,LWT 55°C
- Outdoor air temperature 35°C DB ,85% R.H ; EWT 23°C,LWT 18°C
- Outdoor air temperature 35°C DB ,85% R.H ; EWT 12°C,LWT 7°C
- Test standard: EN12102-1

**ALL-IN-ONE TECHNICAL FEATURES**

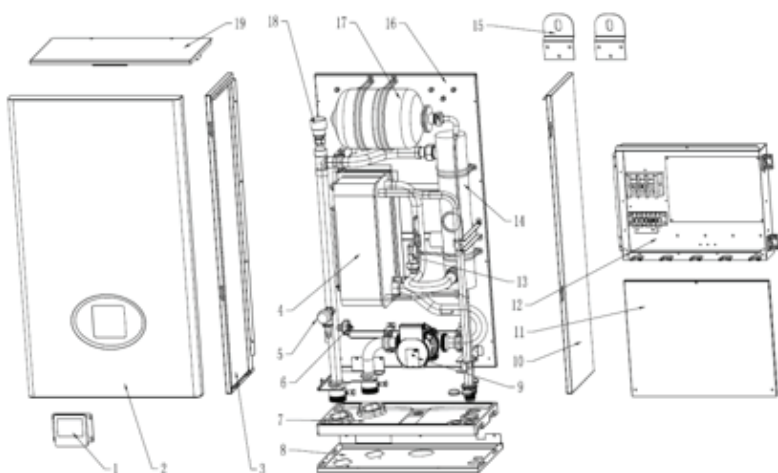
Specification - R134a Sanitary Hot Water Heat Pump				
TECHNICAL DATA		AXHW-20a/200L	AXHW-20a/250L	AXHW-20a/300L
Heating capacity	kW	2.02	2.02	2.02
Power input	W	486	486	486
COP	W/W	4.16	4.16	4.16
Power supply	V/Ph/Hz	220-240/1/50		
Max Current	A	3.2 +6.8 (e-heater)		
Max leaving water temperature	°C	60		
Max. water temperature	°C	70		
Rated water yield	L/H	45		
Working temperature range	°C	-5--43		
Max. discharge pressure	bar	22		
Min. suction pressure	bar	6		
Compressor (Brand/Type/Model)		GMCC/Rotary/PJ125G1C-4DZDE		
Refrigerant type		R134a		
Fan motor (Type/W/RPM)		Asynchronous motor/80/1280		
Air flow	m <sup>3</sup> /h	450		
Duct diameter	mm	177 (Fit flexible 180/200mm duct)		
Max allowed pressure of tank	bar	10		
Inside body material of tank		SUS 304/316L		
Inner tank thickness(mm)		1.5mm		
Insulation material		Polyurethane		
Thickness of the tank insulation (mm)		45		
Outside tank material		galvanized steel		
Outside tank thickness(mm)		0.5		
Coating thickness of the tank cover (mm)		0.05		
Water tank Colour		white, silver		
Hot water outlet	inch	G 3/4		
Solar heat source inlet/outlet	inch	G 3/4		
Cold water inlet	inch	G 3/4		
Size of water drain	inch	G 3/4		
Condensed water outlet	inch	G 1/2		
Material of heat pump coil		Alumium(external coil)		
Size of heat pump coil (Diameter*Thickness*Length)	mm	φ9.52*0.91*55000		
Unit protection Indoor unit (IP xx)		IPX1		
Timer function included yes/no		Y		
Water tank Volume	L	200	250	300
Net Dimensions	mm	φ560x1750	φ640x1765	φ640x1845
Packing Dimensions with pallet	mm	629x629x1895	695x695x1989	695x695x1989
Net Weight	Kg	90	94	97
Gross Weight	Kg	94	98	101
Noise level	dB(A)	46	46	46
Loading quantity of 20GP		27	24	24
Loading quantity of 40GP		54	51	51
Loading quantity of 40HQ		54	51	51

**Note:**  
Capacities and power inputs based on the following conditions:  
- Heating: Ambient temperature 20°C/15°C, Water temperature from 15°C to 55°C.



# DRAWING & DIMENSIONS

## INNER UNIT



1	Touch screen wire controller
2	Front panel
3	Left side panel
4	Plate heat exchanger
5	Safety valve
6	Water pressure sensor
7	Water tray
8	Bottom panel
9	Inverter heat pump
10	Right side panel
11	Electric control box cover
12	Electronic control assembly
13	Water flow switch
14	Electric heating assembly
15	Wall panel
16	Rear panel assembly
17	Expansion tank
18	Automatic exhaust valve
19	Cover



# V-TAC

Meaningful Innovation.

## An all-in-one solution for climate control

### HEAT PUMP ENERGY



R32 refrigerant



Hybrid function



Low noise



Wi-Fi Standard



ERP A+++@35°C

A+++ Energy Class



@A7W35 for 10kW

High efficiency even with  
low ambient temperatures



Holiday Mode



Floor protection



# V-TAC

Meaningful Innovation.

