HEAT PUMP - SPLIT

EVI Technology

R32

RENEWABLE ENERGY SOURCE

The heat pump draws free energy from the air and uses it to heat and cool the building, or prepare domestic hot water. It is a cheap, ecological, and reliable heat source, which can be used by anyone. Thanks to cutting-edge technology, Terra heat pumps operate in a wide range of outside temperatures and achieve the high temperature parameters of the heating system or domestic hot water. No emission of harmful substances into the environment, extreme silence, and maintenance-free make the Terra heat pumps an ideal solution for everyone who builds a house as well as replaces or retrofits the current heat source. The Terra heat pumps can be used in single-family, multifamily, and commercial buildings. Renewable energy sources (RES) are based on natural resources, the extraction of which ensures not only zero-emission energy production but also a wide range of possibilities for its use. Due to relatively easy access to technology and the possibility for it to be used by companies and individual households, the most popular solutions are the units that obtain energy from the air and the sun. Terra's product range provides state-of-the-art RES solutions that include air-to-water heat pumps, heat recovery units, and photovoltaic modules and inverters.

The TERRA heat pump is part of the new generation heating/cooling system that utilize a renewable, free energy source (air) for heating or cooling the home and for heating domestic hot water with maximum savings. Heat pumps have an efficiency of over 400%, meaning for 1 kW of electrical energy consumed, we get over 4.9 kWh of heat.EVI technology allows them to operate at extremely low temperatures, down to -30°C, and at -25°C, it operates at full capacity, so you don't have to worry about losses.

Honeywell

three-way diverter valve

ALFA LAVAL

heat exchanger

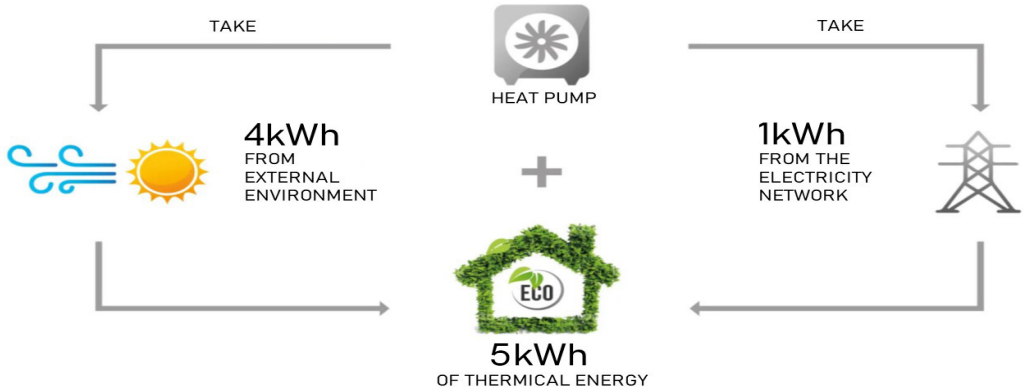
Panasonic

Scroll compressor

wilo

circulation pump

The heat pump can be connected to all existing as well as new central heating systems, changing only the heat source.The heat pumps heat the hot water at temperatures between 55°C and 65°C, while the TERRA Combi tank (boiler + buffer = all in one) consistently provides domestic hot water at temperatures up to 70°C. Equipped with the latest built-in devices from renowned brands: Panasonic – Scroll compressor, ALFA LAVAL heat exchanger, WILO circulation pump, Honeywell three-way diverter valve, ensuring smooth and quiet operation, meeting all European standards and regulations.



Air to water heat pump has great financial benefits.Air to water heat pump will most likely save a lot of money on your annual fuel bills due to the unit' s high COP (Coefficient of performance).When the unit can achieve COP between 3-4,meaning the unit can produce 3kW to 4kW of heat for every 1kW power consummed. There- fore, we could say that approximately 75% of the energy produced comes from the external environment and the electricity input is only 25%.Should the house have a photovoltaic panel system, then that 25% would also be saved as it is produced by solar energy at zero cost. An air-to-water heat pump only needs a small amount of electricity to run the compressor and fan motor.

The convenience obtained is unparalleled, as there is no need for energy storage space. Adjusting and monitoring the system by tracking consumption is possible continuously through a Wi-Fi connection from anywhere at any time.

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Split R32 Heat Pumps (09 kW to 22 kW)

Split heat pumps are a type of air-to-water heat pumps that consist of an indoor and an outdoor unit, connected by refrigerant lines. These heat pumps can achieve water temperatures of up to 65°C and are often used in systems where higher temperatures are not required (underfloor heating and fan coil units). An advantage over monoblock heat pumps is that glycol (antifreeze) does not need to be added to the water, as all the water is inside the building and cannot freeze.

The indoor unit integrates control electronics, the heat exchanger, the circulation pump, an expansion tank, a safety valve, and a three-way valve for domestic hot water (DHW). This allows easy connection to existing systems without additional components. The heat pump enables users to combine a system for heating domestic hot water (for underfloor heating or radiators) with a system for heating and cooling spaces using fan coil units.

For the most economical energy utilization, new buildings incorporate two installations: underfloor heating for space heating and fan coil units for space cooling.

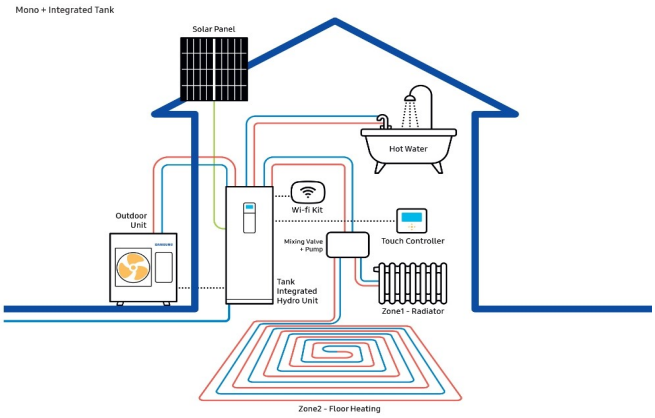
- R32 efficiently works even in small volume compared to existing R410A refrigerant, which decreases the potentialhazard of global warming. Furthermore, R32 refrigerant is easy to recycle
- Lower GWP and carbon emission(GWP:Global Warming Potential) reduce up to 75% of CO2 eg comparng with R410 A

R32 split

- Operation range down to -25 oC
- Maximum LWT reach 75 C
- Single point maximum COP 5.0
- Energy efficiency level:A+++
- DC inverter + EVI Technology

5 years compresor warrenty
3 years heat pump warrenty

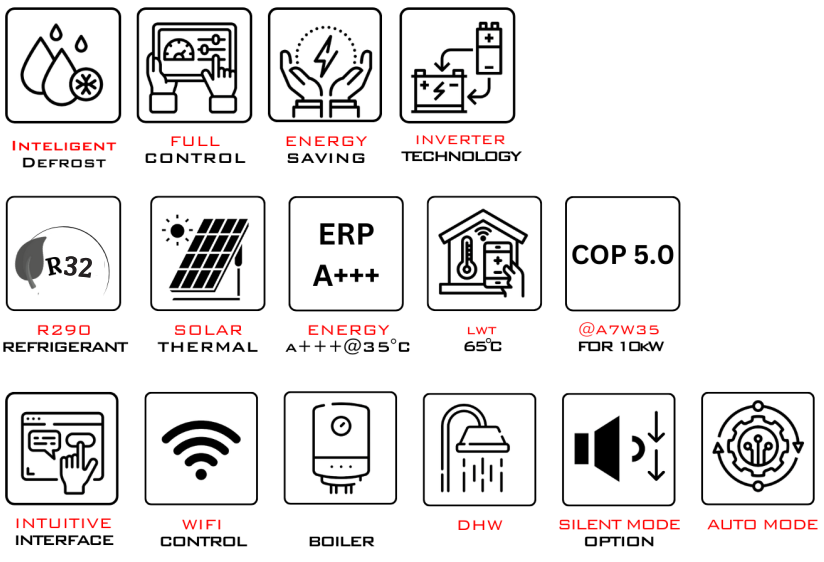
Split					
Model (kW)	9 kW	12 kW	15 kW	18 kW	22 kW
1 ph - 220V-240V~/50Hz	√	√	√	√	√
3 ph - 380V-400V~/3N/50Hz	√	√	√	√	√
Fan Quantity	1	1	1	1	2

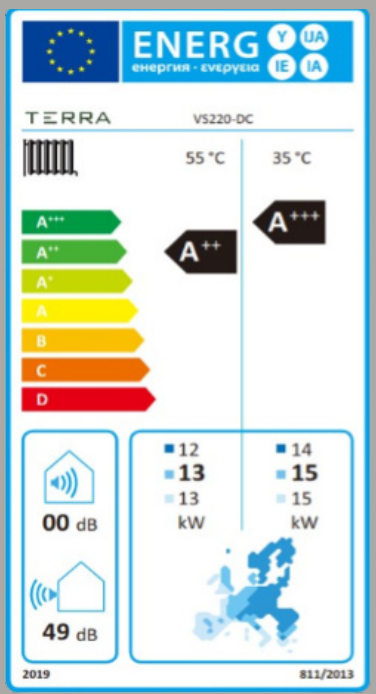


ISO9001
Our Air-Conditioning & Refrigeration Division is an ISO9001 approved factory for residential air conditioners and commercial-use air conditioners (including heat pumps).

ISO14001
Our Air-Conditioning & Refrigeration Division has been assessed and found to comply with the requirements of ISO14001.

Excellent Performance & Efficiency





HEAT PUMP - SPLIT

EVI Technology R32

TECHNICAL DETAILS

A+++ 35°c A++ 55°c A++

Full Inverter Air Water House Heating Heat Pump Split Type

Complete model		VS90-DCS	VS120-DCS	VS150-DCS	VS180-DCS	VS220-DCS
External model number		VS90-DCS-FW	VS120-DCS-FW	VS150-DCS-FW	VS180-DCS-FW	VS220-DCS-FW
Power Supply	/	380V-420V~50Hz/3Ph				
Heating Condition-Ambient Temp.(DB/WB):7/6℃，Water Temp.(In/Out):40/45℃						
Heating Capacity Range	kW	3.8~9.0	3.8~12.0	5.5~15.0	5.5~17.5	7.3~21.5
Heating Power Input Range	kW	0.89~2.48	0.89~3.33	1.31~4.11	1.31~4.85	1.73~5.91
COP		4.25~3.63	4.25~3.6	4.20~3.65	4.20~3.61	4.22~3.64
Heating Condition-Ambient Temp.(DB/WB):7/6℃，Water Temp.(In/Out):30/35℃						
Heating Capacity Range	kW	3.7~8.5	3.7~12.0	5.2~14.6	5.2~17.4	7.0~21.2
Heating Power Input Range	kW	0.67~1.91	0.67~2.69	0.94~3.28	0.94~3.95	1.27~4.75
COP		5.55~4.45	5.55~4.46	5.56~4.45	5.56~4.41	5.52~4.46
Heating Condition-Ambient Temp.(DB/WB):-5/-6℃，Water Temp.(In/Out):36/41℃						
Heating Capacity Range	kW	3.5~7.0	4.0~8.5	4.5~13.0	5.0~15.0	5.5~17.0
Heating Power Input Range	kW	0.91~2.33	1.06~2.85	1.17~4.30	1.30~5.98	1.40~5.45
COP		3.80~3.00	3.78~2.98	3.85~3.02	3.83~3.01	3.95~3.12
Heating Condition-Ambient Temp.(DB/WB):-12/-13.5℃，Water Temp.(In/Out):36/41℃						
Heating Capacity Range	kW	3.0~6.0	4.0~7.5	4.0~11.0	4.5~13.0	5.0~15.0
Heating Power Input Range	kW	1.11~2.45	1.50~3.06	1.45~4.40	1.65~5.30	1.79~5.88
COP		2.70~2.45	2.68~2.45	2.75~2.50	2.72~2.48	2.80~2.55
Heating Condition-Ambient Temp.(DB/WB):-20/~℃，Water Temp.(In/Out):~/41℃						
Heating Capacity Range	kW	2.5~5.0	3.0~6.0	3.8~9.5	4.3~11.0	4.7~12.5
Heating Power Input Range	kW	1.04~2.33	1.26~2.79	1.59~4.44	1.80~5.19	1.92~5.68
COP		2.40~2.15	2.38~2.15	2.39~2.14	2.38~2.12	2.45~2.20
Heating Condition-Ambient Temp.(DB/WB):-25/~℃，Water Temp.(In/Out):~/41℃						
Heating Capacity Range	kW	2.3~4.2	2.8~5.0	3.5~8.5	4.0~9.5	4.5~10.5
Heating Power Input Range	kW	1.05~2.04	1.28~2.47	1.59~4.10	1.84~4.70	2.04~5.68
COP		2.19~2.06	2.18~2.02	2.20~2.07	2.17~2.02	2.20~5.00
Hot Water Condition-Ambient Temp.(DB/WB):20/15℃，Water Temp.(In/Out):15/55℃						
Heating Capacity Range	kW	4.0~12.0	5.0~15.0	6.0~18.0	7.0~21.0	8.0~24.0
Heating Power Input Range	kW	0.83~2.89	1.05~3.65	1.24~4.30	1.47~5.08	1.66~5.78
COP		4.80~4.15	4.76~4.11	4.83~4.18	4.77~4.13	4.82~4.17
Cooling Condition-Ambient Temp.(DB/WB):35/24℃，Water Temp.(In/Out):12/7℃						
Cooling Capacity Range	kW	2.3~6.5	2.3~8.0	3.2~11.0	3.2~13.0	4.5~15.0
Cooling Power Input Range	kW	0.65~2.24	0.65~2.75	0.90~3.79	0.90~4.48	1.25~5.17
EER		3.53~2.90	3.53~2.91	3.55~2.90	3.55~2.90	3.6~2.90
ErP Level（35℃）	/	A+++	A+++	A+++	A+++	A+++
ErP Level（55℃）	/	A++	A++	A++	A++	A++
SCOP（35℃）	/	4.80	4.84	4.79	4.60	4.86
SCOP（55℃）	/	3.42	3.45	3.52	3.41	3.77
Water Flow	m^3	1.1	1.4	1.9	2.2	2.6
Refrigerant/Proper Input	kg	R32/1.5kg	R32/1.5kg	R32/2.0kg	R32/2.1kg	R32/2.8kg
Equivalent CO_2	TON	1.01	1.01	1.35	1.42	1.89
Sound Pressure At Rated Flow (1m)	dB(A)	42	43	45	46	47
Sound Power LevelEN12102 (35℃)	dB(A)	57	59	60	61	62
Cabinet Type	/	Galvanized sheet+ABS				
Compressor Brand	/	Panasonic				
Fan Motor Type	/	DC motor				
Operating Ambient Temperature	℃	-35~43				
Water Connection	inch	1	1	1	1	1
Refrigerant circuit		Liquid Dia(OD):φ9.52 / Gas Dia(OD):φ15.88				
Net weight	kg	62	62	90	92	120
Unit Dimensions(L/W/H)	mm	945×440×755		1145×440×950		1055×440×1400
Shipping Dimensions(L/W/H)	mm	990×450×900		1195×450×1100		1100×450×1550
The above data is for reference only;specific data is subject to the product nameplate.						

Model		VS90-DCS/FN	VS120-DCS/FN	VS150-DCS/FN	VS180-DCS/FN	VS220-DCS/FN
Power Supply		220V-240V~50Hz/1Ph				
Water-side heat exchanger		Coin heat exchanger				
Flow switch		Built-in				
Pump power	kW	0.15	0.15	0.15	0.15	0.15
External head of pump	m	6.0	5.5	4.5	3.5	3.0
Electric heating power	kW	4.0				
inlet and outlet pipe connector	/	DN25 inner teeth				
Rated water flow	m^3/h	1.20	1.38	1.98	2.40	2.80
Water side resistance	kPa	30	30	30	30	30
Max water outlet temp(Heating)	℃	55				
Min water outlet temp(Cooling)	℃	5				
Refrigerant circuit	mm	Liquid Dia(OD):φ9.52 / Gas Dia(OD):φ15.88				
Dimensions	mm	500*300*790				
Net weight	kg	41	42	44	44	44
Sound pressure level	dB(A)	42	42	43	44	45