

Heat pumps for a sustainable future

HS Series
R290 Monobloc

- Reliable
- High temperature
- Silent
- High efficiency

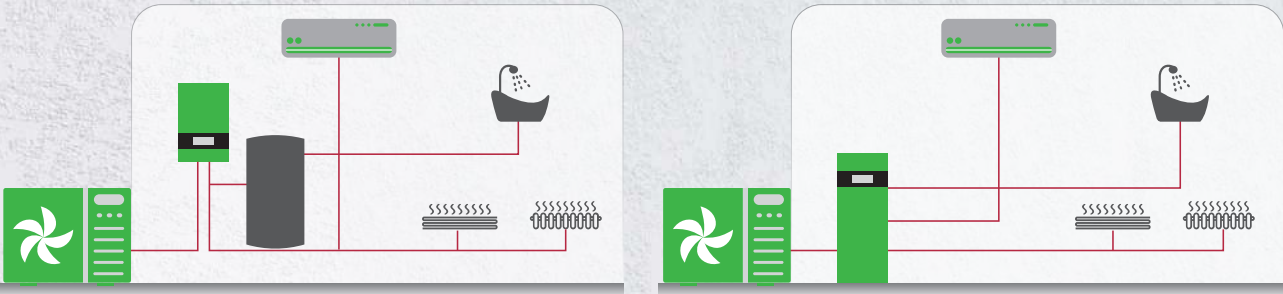
Efficiency data			Range	6kW(1 Ø)		8kW(1 Ø)		10kW(1 Ø)		12kW(1 Ø) 12kW(3 Ø)		15kW(1 Ø) 15kW(3 Ø)		22kW(3Ø)		
Seasonal space heating eff. class (35°C / 55°C)			-	A+++ / A++		A+++ / A++		A+++ / A++		A+++ / A++		A+++ / A++		A+++ / A++		
Seasonal space heating efficiency (ηS) (35°C / 55°C)			%	181/137		186/144		186/138		185/145		186/144		185/142		
SCOP (35°C / 55°C)			-	4.6/3.5		4.72/3.66		4.73/3.53		4.71/3.69		4.72/3.67		4.69/3.63		
Pdesign(35°C / 55°C)			kW	5.0/5.0		6.0/6.0		7.0/6.0		8.0/9.0		12.0/12.0		15.0/17.0		
Sound power level (outdoor unit)	Rated / low noise mode	dB(A)	55/54		56/55		58/57		59/58		58/57		63/61			
Sound pressure level at 3 m 1) (outdoor unit)	Rated / low noise mode	dB(A)	37/36		38/37		40/39		41/40		40/39		45/43			
Sound power level (indoor unit)	Rated	dB(A)	40													
Sound pressure level at 1 m 1) (indoor unit)	Rated	dB(A)	33													
Test Conditions			Unit	Nominal capacity and COP / EER												
Air +7°C / water +35°C	Heating capacity / COP	kW / -	5.6/5.1		6.9/4.9		7.2/4.8		8.6/4.8		12.8/4.9		18.5/4.8			
Air +2°C / water +35°C	Heating capacity / COP	kW / -	5.1/4.3		6.6/4.1		7.0/4.1		8.4/4.0		12.3/4.0		17.8/3.9			
Air -7°C / water +35°C	Heating capacity / COP	kW / -	4.9/3.7		6.3/3.5		6.7/3.4		8.2/3/3		11.6/3.5		16.2/3.3			
Air +7°C / water +55°C	Heating capacity / COP	kW / -	4.7/3.1		6.3/3.1		6.8/3.0		8.3/3.1		12.2/3.0		18.1/3.1			
Air -7°C / water +55°C	Heating capacity / COP	kW / -	4.3/2.7		5.9/2.8		6.2/2.4		7.8/2.5		10.8/2.5		14.4/2.3			
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	5.2/3.3		6.2/3.3		7.1/3.0		10.6/3/2		14.7/3.4		19.3/3.1			
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	4.3/2.9		5.2/2.9		6.0/2.6		7.8/2.8		10.3/2.6		14.5/2.5			
Outdoor unit			Unit	HS06V		HS08V		HS10V		HS12V		HS15V		HS22V		
Refrigerant	Type	-	R290													
	GWP	-	3													
	Precharged amount	kg	0.6		0.72		0.72		0.8		1.15		1.36			
	t-CO2 eq.	-	0.0018		0.0022		0.0022		0.0024		0.0035		0.0041			
Piping connections (water)	Inlet / outlet diameter	inch	Male thread 1													
Operation range	Heating & DHW (Min. ~ Max.)	°C	-28~40													
(outdoor air temperature)	Cooling (Min. ~ Max.)	°C	10~45													
Dimension	W × H × D	mm	850×1060×420		1014×1060×420				1370×1060×420				1565×420×1060			
Weight	Empty	kg	92		106		106		112		132		170			
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50		220 ~ 240, 1, 50		220 ~ 240, 1, 50 / 380 ~ 415, 3, 50						380 ~ 415, 3, 50			
	Recommended circuit breaker	A	1 Ø:9		1 Ø:12		1 Ø:14		1 Ø: 18 / 3 Ø: 8.5		1 Ø: 25 / 3 Ø: 11.5		3 Ø: 16			
Exterior	Color of chassis / RAL code	-	Anthracite Grey/RAL 7016													
	Color of front grille / RAL code	-	Anthracite Grey/RAL 7016													
Indoor unit			Unit	DSK03/09-QPVTSG DSK03/09-QPVTSL200												
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	15 ~ 75													
	Cooling (Min. ~ Max.)	°C	12 ~ 27													
	DHW (Min. ~ Max.)	°C	15 ~ 65													
Built-in water tank	Buffer tank	L	18/26													
	DHW tank3)	L	200													
	PCM Precharged amount	kg	16/23													
Backup heater	Capacity combination	kW	3.0/3.0 + 3.0 / 3.0 + 3.0 + 3.0													
	Power supply	V, Ø, Hz	220 ~ 240, 1, 50 / 220 ~ 240, 1, 50 / 380 ~ 415, 3, 50													
	Rated running current	A	13/26 /13													
Piping connections (water)	Heating circuit outlet pipe	inch	Male thread 1"													
	Heating circuit inlet pipe	inch	Male thread 1"													
	Outlet pipe to outdoor unit	inch	Male thread 1"													
	Inlet pipe from outdoor unit	inch	Male thread 1"													
	DHW outlet pipe	inch	Male thread 3/4"													
	Cold water inlet pipe	inch	Male thread 3/4"													
Dimension	W × H × D	mm	450*360*900 600*610*1870													
Weight	Empty	kg	57/197													
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50													
	Recommended circuit breaker	A	10/25													
Exterior	Color / RAL code	-	Signal White / RAL 9003													

1) Sound pressure levels are measured in accordance with EN12102 and ISO3744, sound power levels are converted from sound pressure rate levels, the test model is a positive hexahedron, and the noise floor of the noise chamber is 15 dB.
*Dentwiton reserves the right to alter the standards of the manufactured devices or to withdraw products from its offer without notice.

HS Series R290

- Capacity range from 6 kW to 22 kW in 6 types, suitable for retrofit and new construction projects
- Natural refrigerant R290, low GWP (3), less filling
- Exquisite style in grey color to harmonize the environment
- The noise level meets the BEG requirements ;
- Flow temperature up to 75°C
- Operating temperature down to -28°C
- BAFA listed

Product System



Product Matching List

Capacity (KW)	POWER Phase	Outdoor unit		Hydraulic Module(M/S)		Hydraulic Tower (All in one)	
6	1P	HSO6V-QPANW		DSK03-QG		DSK03-QPVTSL200	
8		HSO8V-QPANW					
10		HS10V-QPANW					
12		HS12V-QPANW	DSK03-QPVTSG				
15		HS15V-QPANW					
12	3P	HS12V-DPANW		DSK09-DG	DSKB03-QPVTSL200		
15		HS15V-DPANW					
22		HS22V-DPANW				DSK09B-DPVTSG	

Optimized Design in Performance



Dual EEV design to reduce operating disturbance



Double-tube heat exchanger increases heating capacity and efficiency



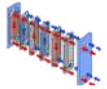
Leaf vein evaporator refrigerant inlet design improves evaporation efficiency



Adaptive intelligent defrosting improves defrosting efficiency and prolongs defrosting cycle



Phase change material (PCM) heat storage reduces the system's thermal shock and smooths system running



Multi-dimensional antifreeze control and protection to eliminate the risk of freezing and cracking

Safety and Reliability



Electrical explosion-proof and partition design, temperature control detection in the IGBT high temperature area



Highly efficient and fast exhaust is achieved through micro-bubble valve



Sheet metal is treated with anti-corrosion technology, and welded with ultra-high welding standards

List of additional testing items:

▶ Cyclic product logic testing

▶ Product label anti-radiation test

▶ Dynamic balance test of wind blades

▶ Microscopic inspection of copper tube welding

▶ Spare parts aging test

▶ Metal tensile test

▶ Main control board performance test

▶ Life test of spare parts operation

Additional advantages

1) The pipeline space is reasonably arranged for convenient maintenance

2) Multiple appearance options are available, and customized appearance is accepted

Optimized Design in Noise



Suspended type chassis with two-dimensional shock-absorbing design



The compressor is designed to be covered by multi-layer composite sound insulation cotton



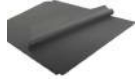
Simulation analysis of evaporator air duct and adjustment of blade shape



Optimized pipeline design to reduce operating noise



A thousand-layer fluffy PET material laminated with aluminum foil



Fan panels to be arranged with shock-absorbing and sound-absorbing materials

Excellent energy efficiency

Air Source

Free and renewable energy

80%

Electricity

From the grid or photovoltaic

20%

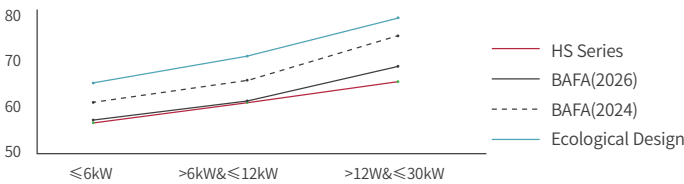
Thermal load

100%

Annual energy cost modelling

Country	Old A/W heat pump ^①	R290 Monobloc (16 kW) ^②	Gas Boiler ^④
Germany	2502	1861	2984
France	1725	1283	3307
Netherlands	1974	1468	4624

Sound power	Ecological Design	BAFA(2024)	BAFA(2026)	HS Series
≤6kW	65	60	55	≤55
>6kW&≤12kW	70	65	60	≤60
>12W&≤30kW	78	73	68	≤64



* Modelled results may differ from actual values.

* Annual energy costs are based on national gas and electricity prices as of January 2023, and may differ from what customers actually pay, depending on changes in energy prices and individual energy usage patterns, system settings, and other factors. This depends on energy price changes and individual energy use patterns and system settings. Actual costs paid by customers may vary depending on energy price changes and individual energy usage patterns. For conventional heat pumps and gas boilers, the energy consumption is similar to that of the Dentwiton HS series. Series R290 Monobloc 15 kW heating demand. Specific assumptions include:

① All systems are considered for space heating only (DHW operation is not considered)

② General climate, low temperature applications (35°C)

③ SCOP 2.9 to account for 10-year heat pump performance degradation

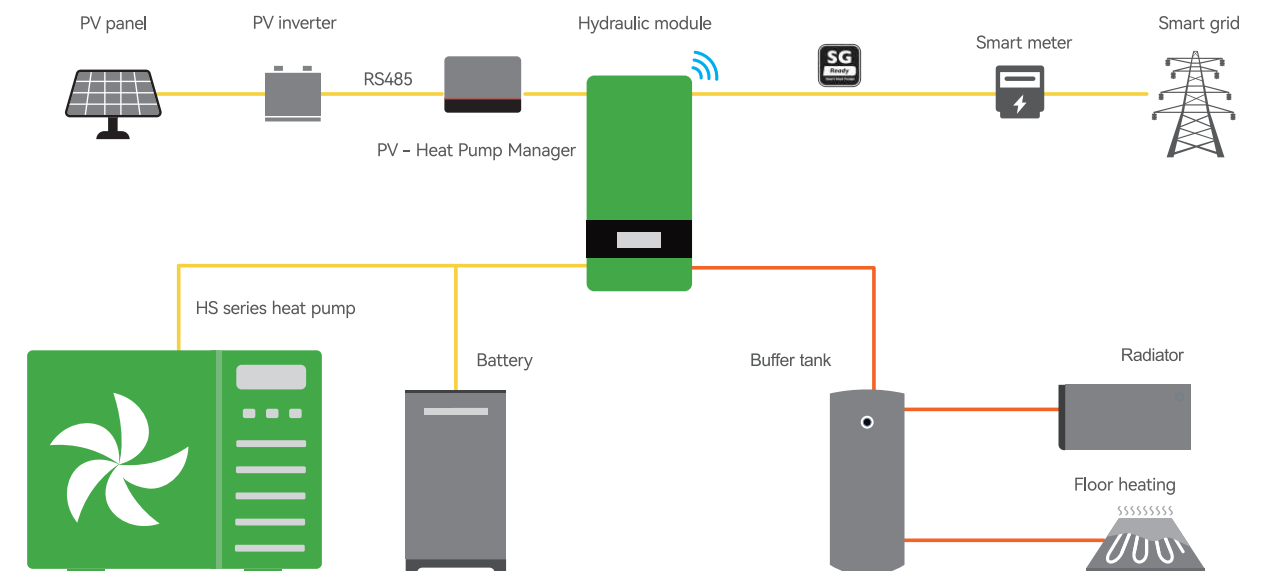
④ 95% efficiency with condensing boilers

Interior & Connections



- | | | | |
|---|-------------------------------------|------------------------------|------------------------|
| 1 Finned heat exchanger (hydrophobic coating) | 7 Dual EEV (cooling/heating) | 1 Buffer Tank | 5 Circulating Pump |
| 2 DC inverter fan | 8 Suspended chassis | 2 Auxiliary Electric Heating | 6 Secondary Pump |
| 3 Silent air blades | 9 Pressure sensor | 3 Expansion Tank | 7 DHW Tank |
| 4 Double-tube heat exchanger | 10 Leaf-vein shunt | 4 3-Way Valve | 8 DHW Electric Heating |
| 5 Compressor (silent optimised) | 11 Microbubble Valve Kit | | |
| 6 Four-way valve | 12 DC inverter pump (flow feedback) | | |

Tools & Services

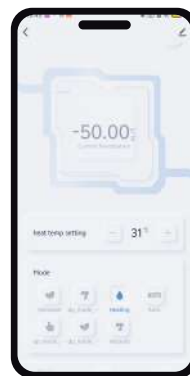


Home Energy application



Touch screen interface:

- Intuitive and vivid display of operation inspection
- Rich and convenient functional operations
- One-click language switching
- Operation energy consumption tracking



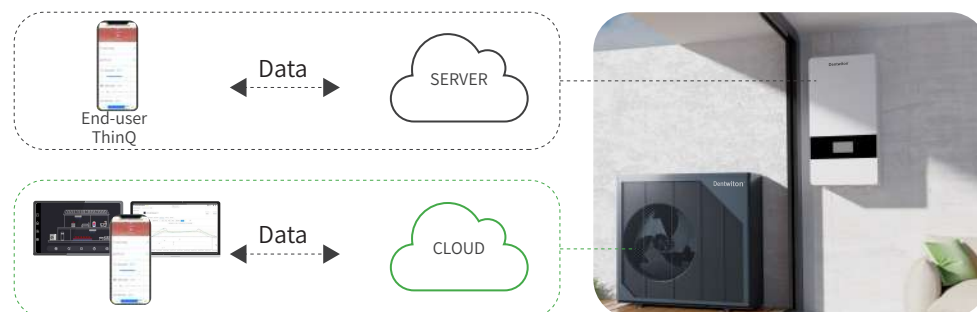
Mobile interface:

- Nimble and convenient operation
- Detailed display of main functions
- Family sharing service and interconnection operation



IOT service:

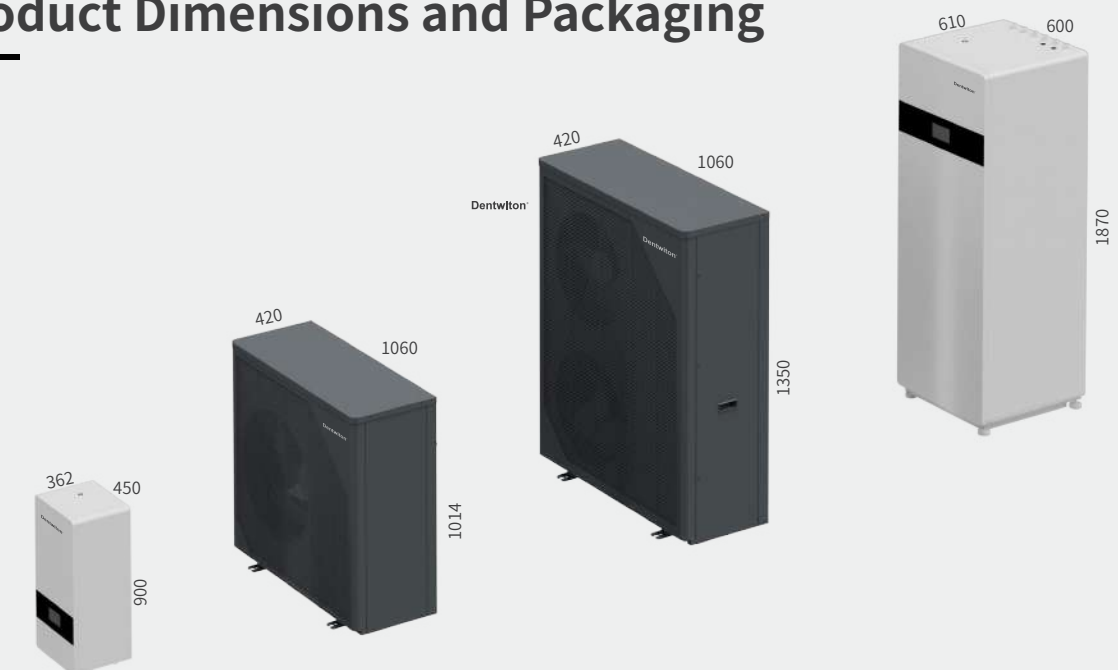
- European servers ensure information security
- Management of specific account classification
- Precise positioning of installed products
- Product operation history curve tracking
- Malfunction warning



The HS series use cloud technology to control, maintain and monitor the units, which not only facilitates user operation, but also provides convenient services such as remote monitoring, service, information management, and malfunction warning for installers and maintenance service partners.

*The installation scenarios used in this brochure are intended to visually demonstrate the product and must be followed in accordance with the installation manual and local regulations.

Product Dimensions and Packaging



Outdoor unit	Hydraulic Module	Packing quantity (sets)	Hydraulic tower	Packing quantity (sets)	Outdoor unit	Hydraulic Module	Packing quantity (sets)	Hydraulic tower	Packing quantity (sets)
HS06V		68		30	HS12V		68		30
HS08V		68		30	HS15V		46		22
HS10V		68		30	HS22V		46		22