HYUNDAI

Air to Water Heat Pump



M-Thermal

all in one

Hydro module with water tank

Comfort



R32 refrigerant

- Low Global Warming Potential (GWP)
- Higher heat transfer coefficient with better performance
- Less charged volume is needed in the system
- Less costs and easier to get R32
- Eco-Friendly refrigerant for future





Easy Installation and maintenance

- Pipe length up to 30m for flexible installation position of outdoor unit
- Without extra refrigerant supplement for pipe length less than 15m
- All parameters checked by wired controller for commissioning time saving
- Smaller floor print results in space saving
- SUS 316L stainless steel with high corrosion resistance ability

Easy control

- Real-time status inquiry by APP or multiple language wired controller
- Energy consumption and energy-saving suggestions

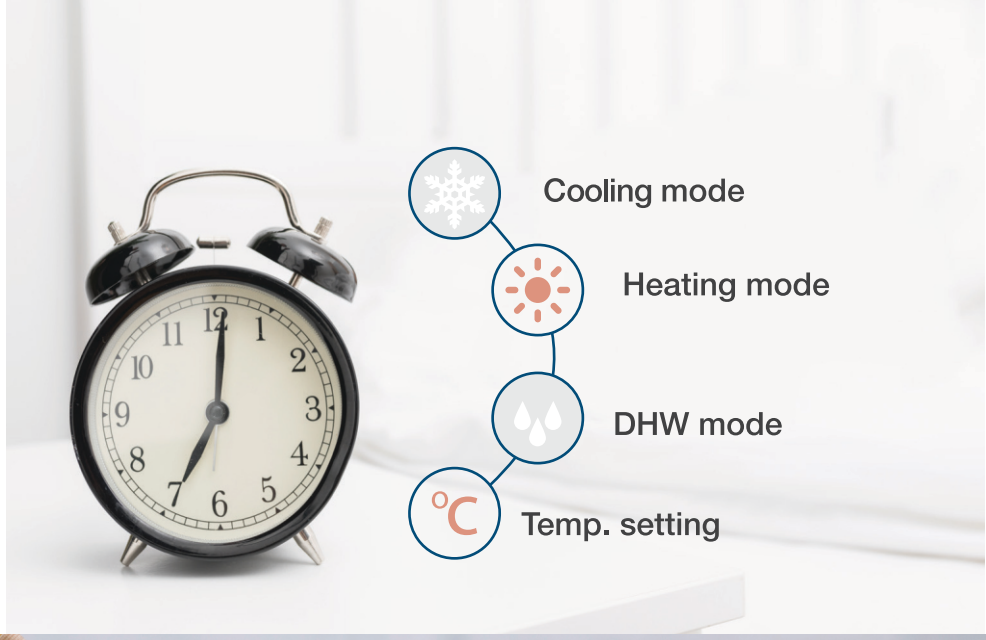
Comprehensive solution

- **One-stop solution for space heating and cooling and domestic hot water**
- Work with variety of heat source and terminals
- Ideal substitute for gas or oil boiler



Schedule

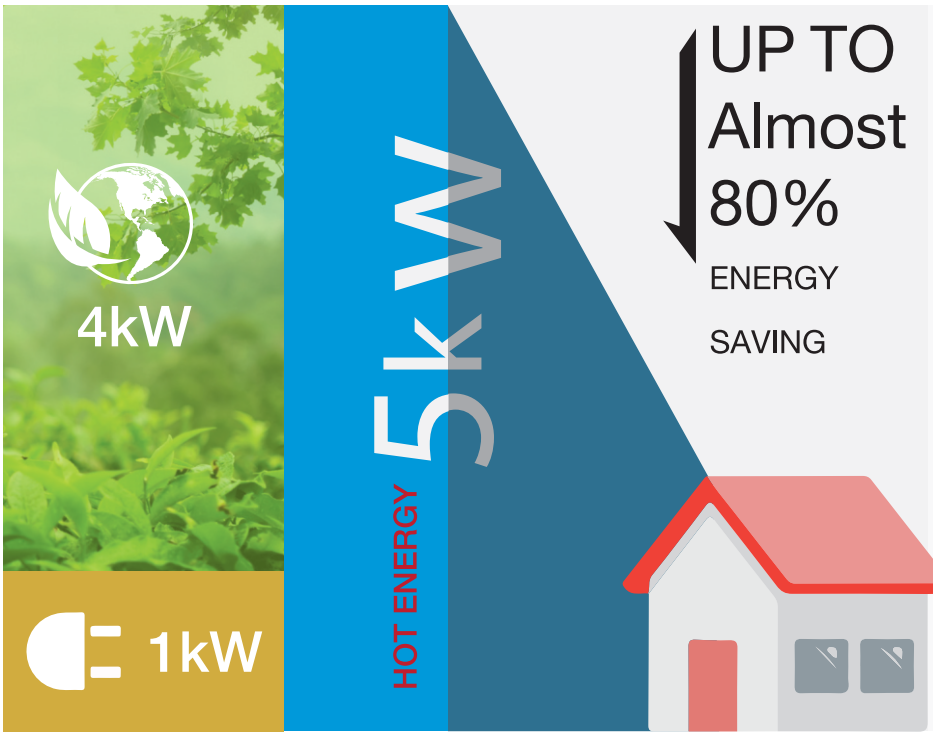
Operation according to users habit to satisfy multiple usage requirements





Heat pump technology

Typically around 4kW of air energy can be captured for every 1kWh of electrical energy expended, giving almost 5kW of heat energy and the efficiency is almost 500%.



A+++

ErP 35°C

A+

DHV

Average climate
Warm climate

* Ambient temperature: 7°C, Water inlet temperature: 30°C, Water outlet temperature: 35°C

Holiday mode

Protect water system from freezing during winter with lowest power consumption.



Smart Grid

Smart Grid certification indicates M thermal can fully utilize electricity from different sources or different price levels, like photovoltaic, to satisfy different operation modes, which results in cost saving.



Climate curve

· Water temperature is automatically set according to ambient temperature to ensure high efficiency operation.
· ECO curve is specially designed for energy saving.
· Always keep room temperature at comfort.



*Temperature on left is for reference.

Specification

Outdoor Unit Model					HYHA-V8W/D2N8	HYHA-V10W/D2N8
Indoor Unit Model					HYHB-A100/190CD30GN8	
Domestic hot water	Tapping profile according EN16147				L	
	Water heating energy efficiency class(1)	Average climate		class	A+	A+
				COP	3.02	3.02
		Warm climate		class	A+	A+
				COP	3.66	3.66
		Cold climate		class	A	A
				COP	2.61	2.61
Heating	A7W35 (2)	Capacity		kW	8.30	10.00
		Rated input		kW	1.60	2.00
		COP			5.20	5.00
	A7W45 (3)	Capacity		kW	8.20	10.00
		Rated input		kW	2.08	2.63
		COP			3.95	3.80
Cooling	A35W18 (4)	Capacity		kW	8.40	10.00
		Rated input		kW	1.66	2.08
		EER			5.05	4.80
	A35W7 (5)	Capacity		kW	7.40	8.20
		Rated input		kW	2.19	2.48
		EER			3.38	3.30
Space heating	Seasonal space heating energy efficiency class(6)	Water outlet at 35°C		class	A+++	A+++
		Water outlet at 55°C		class	A++	A++
Indoor unit sound power Level (7)				dB	40	
Outdoor unit sound power Level (7)				dB	59	60
Indoor Unit	Power supply			V/Ph/Hz	220-240/1/50	
	Rated input			W	3095	
	DHW Tank	Type			Stainless steel	
		Material		-	SUS 316L	
		Water volume		L	190	
		Maximum water temperature		℃	70	
		Insulation	Material	-	Polyurethane（Cyclopentane）	
	Heat exchanger				Plate heat exchanger	
	Backup heater	Standard mounted		kW	3	
		Capacity steps			1	
	Water Pump	Type			DC Inverter	
		Max.head		m	9	
	Water piping connections	Water circuit	Inlet		R1"	
			Outlet			
		DHW tank water circuit	Cold water inlet		R3/4"	
			Hot water outlet			
			Recirculation			
	Unit dimension (W×D×H)			mm	600*600*1683	
	Packing dimension (W×D×H)			mm	730*730*1920	
	Net weight			kg	140	
	Gross weight			kg	161	
	Ambient temperature range			℃	5～35	
	Water outlet temperature	Heating(heating pump)		℃	25～65	
		Cooling		℃	5～25	
		Domestic hot water		℃	30～60	
Outdoor Unit	Power supply			V/Ph/Hz	220-240/1/50	
	Unit dimension (W×H×D)			mm	1118×865×523	
	Packing dimension (W×H×D)			mm	1190×970×560	
	Net weight			kg	78.5	
	Gross weight			kg	92	
	Refrigerant	Type(GWP)			R32(675)	
		Charged volume		kg	1.65	
		Refrigerant to be added		g/m	38	
	Refrigerant piping Connections	Liquid side		mm	φ9.52	
		Gas side		mm	φ15.9	
		Max.piping length		m	30	
		Max.differance in height		m	20	
	Drain connection				DN32	
	Ambient temperature range	Heating		℃	-25）35	
		Cooling		℃	-5）43	
		Domestic hot water		℃	-25）43	

Notes:
(1)According to EN16147/2017;EU No:812/2013
(2)DB/WB 7/6 C , LWT 35 C （△T=5 C）
(3)DB/WB 7/6 C , LWT 45 C （△T=5 C）
(4)DB 35 C , LWT 18 C （△T=5 C）
(5)DB 35 C , LWT 7 C （△T=5 C）
(6)According to EN14511/2018; EN14825/2018; EU No:811/2013
(7)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825
(8)Certifications plan to come with the launch of the product.

Specification

Outdoor Unit Model					HYHA-V12W/D2N8	HYHA-V16W/D2N8	HYHA-V12W/D2N8	HYHA-V16W/D2N8
Indoor Unit Model					HYHB-A160/240CD30GN8			
Domestic hot water	Tapping profile according EN16147				XL			
	Water heating energy efficiency class(1)	Average climate		class	A+	A+	A+	A+
				COP	3.00	3.00	3.00	3.00
		Warm climate		class	A+	A+	A+	A+
				COP	3.73	3.73	3.73	3.73
		Cold climate		class	A	A	A	A
				COP	2.24	2.24	2.24	2.24
Heating	A7W35 (2)	Capacity		kW	12.10	16.00	12.10	16.00
		Rated input		kW	2.44	3.56	2.44	3.56
		COP			4.95	4.50	4.95	4.50
	A7W45 (3)	Capacity		kW	12.30	16.00	12.30	16.00
		Rated input		kW	3.24	4.44	3.24	4.44
		COP			3.80	3.60	3.80	3.60
Cooling	A35W18 (4)	Capacity		kW	12.00	14.90	12.00	14.90
		Rated input		kW	3.00	4.38	3.00	4.38
		EER			4.00	3.40	4.00	3.40
	A35W7 (5)	Capacity		kW	11.60	14.00	11.60	14.00
		Rated input		kW	4.22	5.71	4.22	5.71
		EER			2.75	2.45	2.75	2.45
Space heating	Seasonal space heating energy efficiency class(6)	Water outlet at 35°C		class	A+++	A+++	A+++	A+++
		Water outlet at 55°C		class	A++	A++	A++	A++
Indoor unit sound power Level(7)				dB	42	44	42	44
Outdoor unit sound power Level(7)				dB	64	68	64	68
Indoor Unit	Power supply			V/Ph/Hz	220-240/1/50			
	Rated input			W	3095			
	DHW Tank	Type			Stainless steel			
		Material		-	SUS 316L			
		Water volume		L	240			
		Maximum water temperature		℃	70			
		Insulation	Material	-	Polyurethane（Cyclopentane）			
	Heat exchanger				Plate heat exchanger			
	Backup heater	Standard mounted		kW	3			
		Capacity steps			1			
	Water Pump	Type			DC Inventer			
		Max.head		m	9			
	Water piping connections	Water circuit	Inlet		R1"			
			Outlet					
		DHW tank water circuit	Cold water inlet		R3/4"			
			Hot water outlet					
			Recirculation					
	Unit dimension (W×D×H)			mm	600*600*1943			
	Packing dimension (W×D×H)			mm	730*730*2180			
	Net weight			kg	159			
	Gross weight			kg	180			
	Ambient temperature range			℃	5～35			
	Water outlet temperature	Heating(heating pump)		℃	25～65			
		Cooling		℃	5～25			
		Domestic hot water		℃	30～60			
Outdoor Unit	Power supply			V/Ph/Hz	220-240/1/50		380-415/3/50	
	Unit dimension (W×D×H)			mm	1118×865×523			
	Packing dimension (W×D×H)			mm	1190×970×560			
	Net weight			kg	100		116	
	Gross weight			kg	113.5		129.5	
	Refrigerant	Type(GWP)			R32(675)			
		Charged volume		kg	1.84			
		Refrigerant to be added		g/m	38			
	Refrigerant piping Connections	Liquid side		mm	φ9.52			
		Gas side		mm	φ15.9			
		Max.piping length		m	30			
		Max.differance in height		m	20			
	Drain connection				DN32			
	Ambient temperature range	Heating		℃	-25）35			
		Cooling		℃	-5）43			
		Domestic hot water		℃	-25）43			

Notes:
(1)According to EN16147/2017;EU No:812/2013
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