

TEMPERATURE CONTROL 14/17

# AIR TO WATER HEATING / COOLING PUMP ECO

The EPH series heat pump is designed to provide dependable heating and cooling performance tailored for everyday pool applications. Built with a focus on durability, energy efficiency, and ease of use, this series offers a practical solution for residential and commercial projects seeking a straightforward and effective heating system. Engineered with proven technology and manufactured under stringent quality standards, this unit delivers consistent operation and user-friendly performance while maintaining compliance with industry safety norms.

## ✓ Key Features & Benefits:

- Designed with sturdy materials for dependable long-term operation.
- Provides steady heating and cooling suitable for year-round pool comfort.
- Low-noise fan and compressor design ensure minimal disturbance.
- Intuitive digital display with straightforward settings for hassle-free operation and user-friendly controls.
- Optimized design supports reliable operation across varied climates.
- Simplified component layout allows quick servicing and upkeep.
- Developed with proven components to support safe, consistent operation for assured dependability.



## Technical Highlights:

- Designed for Extreme Conditions – Engineered to operate reliably under T3 ambient conditions, withstanding temperatures up to 53 °C.
- High-Quality Compressors – Incorporates GMCC and Sanyo compressors, developed with Japanese engineering expertise to ensure consistent performance and energy-efficient operation.
- Advanced User Interface – Equipped with a feather-touch display, supporting remote installation up to 30 m for real-time monitoring and control.
- Flexible Control Modes – Supports Manual and Automatic operation modes for precise heating and cooling of pool water.
- Comprehensive Safety Systems – Integrated protections include phase loss, phase reversal, low/high pressure, insufficient water flow, and multiple thermal sensors, ensuring robust operation and safeguarding the unit from potential damage.
- BMS Compatibility – Optional integration for Building Management Systems via RS485 with MODBUS protocol is available on request.



TEMPERATURE CONTROL

## ? How does the unit work?

### ...AS A CHILLER

#### 1- STAGE ONE

The temperature of the hot gaseous refrigerant discharged from the compressor is much higher than the outside ambient air temperature. When the outside air passes across the condenser coil, the gaseous refrigerant transfers its heat to the air and condenses into liquid.

#### 2- STAGE TWO

The liquid refrigerant passes through the capillary tube, reducing its pressure and temperature.

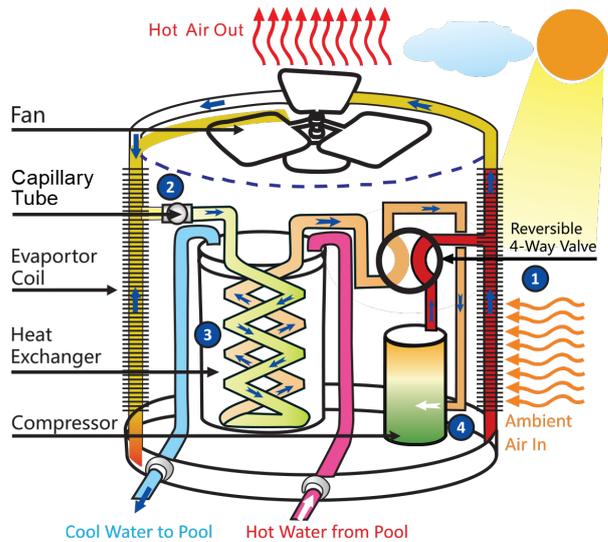
#### 3- STAGE THREE

The low temperature refrigerant passes to the heat exchanger evaporator, where the actual heat transfer takes place: the refrigerant absorbs heat from the water pumped into the heat exchanger and evaporates, whereby the water temperature is reduced.

#### 4- STAGE FOUR

The gas refrigerant is then sucked to the compressor and compressed, increasing its pressure and temperature, ready to start the whole cycle once again.

### CAPILLARY TUBE



### ...AS A HEAT PUMP

#### 1- STAGE ONE

The gaseous refrigerant passes to the compressor and is compressed. When compressed, the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

#### 2- STAGE TWO

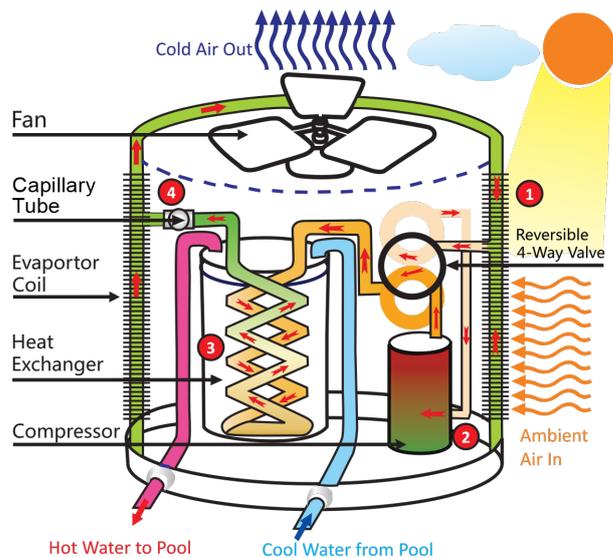
The hot gaseous refrigerant passes to the heat exchanger condenser, where the actual heat transfer takes place: the intensely hot gaseous refrigerant transfers its heat to the water pumped into the heat exchanger and condenses back into a liquid.

#### 3- STAGE THREE

The liquid refrigerant then passes through an capillary tube, reducing its pressure and temperature. The heat transfer medium (the refrigerant) is colder than the outside air.

#### 4- STAGE FOUR

As the outside air passes across the evaporator coil, the liquid refrigerant absorbs heat from the air and evaporates, ready to start the whole cycle once again.



		EPH-02640-R410A	EPH-02650-R410A	EPH-02660-R410A	EPH-02670-R410A
Power supply	Refrigerant	R410A	R410A	R410A	R410A
	V/PH/Hz	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50
YL-H01-Heating: A24/W26°C	Heating capacity	15	19	22	26
	Power input	51182.13	64830.698	75067.124	88715.692
	COP	4.8	4.3	4.8	5.9
YL-H02-Heating: A15/W26°C	Heating capacity	13	16	18	22
	Power input	44357.846	54594.272	61418.556	75067.124
	COP	4.7	4.2	4.67	5.8
YL-C01-Cooling: A35/W32°C	Cooling capacity	10.8	13.5	15.2	18.6
	Power input	36851.1336	46063.917	51864.5584	63465.8412
	EER	4.3	5.3	6.3	7.3
YL-C02-Cooling: A43/W32	Cooling capacity	8.4	10.6	11.9	14.5
	Power input	28661.9928	36168.7052	40604.4898	49476.059
	EER	4.7	5.8	6.9	8.0
MAX.POWER INPUT	Power input	1.8	1.8	1.7	1.8
	EER	6	6.6	8	11
OPERATING	MAX.CURRENT	11	12	19	20
	Heating water temp range	15~40	15~40	15~40	15~40
	Cooling water temp range	12~30	12~30	12~30	12~30
KEY	Ambient temp range	-15 ~ 53	-15 ~ 53	-15 ~ 53	-15~53
	Compressor type	Scroll*1	Scroll*1	Scroll*1	Scroll*1
	Controller	micro processor based digital controller with LCD touch screen display			
HEATING EXCHANGER	Sound power level 10(m)	41	41	41	42
	Type	Spiral titanium tube in PVC			
	Water flow	2.4~7.5	4.9	5.8	7.1
FAN	Water pressure drop (max)	12	12	12	12
	Water connecton	BSP threaded / 1-1/2"	BSP threaded / 1-1/2"	BSP threaded / 1-1/2"	BSP threaded / 1-1/2"
	Fan Position	Verticle	Verticle	Verticle	Verticle
DIMENSIONS (L x W x H)	Material	Galvanized sheet	Galvanized sheet	Galvanized sheet	Galvanized sheet
	Net	746/686/941	746/686/941	746/686/941	810/810/1079
	Shipping	775/745/1100	775/745/1100	775/745/1100	860/860/1235
WEIGHT	-	90/92	97/111	99/113	140/159

		EPH-02680-R410A	EPH-02712-R410A	EPH-02713-R410A	EPH-02715-R410A	EPH-02720-R410A
Power supply	Refrigerant	R410A	R410A	R410A	R410A	R410A
	V/PH/Hz	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50
YL-H01-Heating: A24/W26°C	Heating capacity	32 kW	41 kW	50 kW	75 kW	99 kW
	Power input	109188.544 BTU/h	139897.822 BTU/h	170607.1 BTU/h	255910.65 BTU/h	337802.058 BTU/h
	COP	6.9	8.9	10.6	15.8	21.9
YL-H02-Heating: A15/W26°C	Heating capacity	27 kW	34 kW	42 kW	63 kW	82 kW
	Power input	92127.834 BTU/h	116012.828 BTU/h	143309.964 BTU/h	214964.946 BTU/h	279795.644 BTU/h
	COP	6.8	8.7	10.4	15.5	21.5
YL-C01-Cooling: A35/W32°C	Cooling capacity	3.93 kW	3.95 kW	4.04 kW	4.04 kW	3.83 kW
	Power input	22.6 BTU/h	29.1 BTU/h	35.5 BTU/h	52.9 BTU/h	69.7 BTU/h
	EER	77114.4092	99293.3322	121131.041	180502.3118	237826.2974
YL-C02-Cooling: A43/W32	Power input	8.4 kW	11.3 kW	14.4 kW	20.0 kW	26.6 kW
	EER	2.7	2.6	2.5	2.6	2.6
	Cooling capacity	17.6 kW	22.7 kW	27.7 kW	41.3 kW	54.4 kW
MAX.POWER INPUT	Power input	60053.6992 BTU/h	77455.6234 BTU/h	94516.3334 BTU/h	140921.4646 BTU/h	185620.5248 BTU/h
	EER	9.7	12.4	15.8	22.0	29.3
MAX.CURRENT	W/W	1.8	1.8	1.8	1.9	1.9
	kW	11	13	14	26	36
OPERATING	Heating water temp range	21 °C	23 °C	24 °C	47 °C	65 °C
	Cooling water temp range	15~40 °C	15~40 °C	15~40 °C	15~40 °C	15~40 °C
	Ambient temp range	12~30 °C	12~30 °C	12~30 °C	12~30 °C	12~30 °C
KEY	Compressor type	-15~53 Scroll*1	-15~53 Scroll*2	-15~53 Scroll*2	-15~53 Scroll*3	-15~53 Scroll*4
	Controller	micro processor based digital controller with LCD touch screen display				
HEATING EXCHANGER	Noise	45 dB(A)	45 dB(A)	45 dB(A)	46 dB(A)	54 dB(A)
	Type	Titanium /PVC	Titanium /PVC	Titanium /PVC	Titanium /PVC	Titanium /PVC
	Water flow	8.2 m³/h	10.6 m³/h	13.0 m³/h	19.3 m³/h	25.4 m³/h
FAN	Water pressure drop (max)	13 KPa	11 KPa	13 KPa	20 KPa	25 KPa
	Water connection	BSP threaded / 2"	BSP threaded / 2"	BSP threaded / 2"	flange / 4"	flange / 4"
DIMENSIONS (L x W x H)	Fan Position	Vertical	Vertical	Vertical	Vertical	Vertical
	Material	Plastic	Plastic	Plastic	Plastic	Plastic
	Net	860x860x1280 mm	1453x708x1084 mm	1453x708x1284 mm	2145x762x1306 mm	2018x1056x2078 mm
WEIGHT	Shipping	920x920x1425 mm	1510x775x1225 mm	1510x775x1425 mm	2230x810x1445 mm	2080x1136x2122 mm
	-	152/175 kg	230/256 kg	285/310 kg	397/434 kg	582/625 kg

# TOP DISCHARGE

## Models

		EPH-02730-R410A	EPH-02740-R410A	EPH-02750-R410A	EPH-02760-R410A	EPH-02770-R410A
Power supply	Refrigerant	R410A	R410A	R410A	R410A	R410A
	V/PH/Hz	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50	380~415/3/50
YL-H01-Heating: A24/W26°C	Heating capacity	124	146	165	192	229
	BTU/h	423105.608	498172.732	563003.42	655131.264	781380.517
	Power input	27.0	31.6	36.7	42.8	49.0
YL-H02-Heating: A15/W26°C	COP	4.6	4.6	4.5	4.5	4.7
	Heating capacity	103	122	138	160	191
	BTU/h	351450.626	416281.324	470875.596	545942.72	651719.122
YL-C01-Cooling: A35/W32°C	Power input	26.5	31	36	42	48
	COP	3.89	3.94	3.82	3.81	3.98
	Heating capacity	87.0	103.1	116.2	135.2	161.4
YL-C02-Cooling: A43/W32	BTU/h	296856.354	351791.8402	396490.9004	461321.5984	550719.7188
	Power input	32.6	36.6	43.9	54.5	64.4
	EER	2.7	2.8	2.6	2.5	2.5
MAX.POWER INPUT	Heating capacity	68.0	80.5	90.8	105.6	126.1
	BTU/h	232025.656	274677.431	309822.4936	360322.1952	430271.1062
	Power input	36.2	40.3	48.3	60.0	70.8
MAX.CURRENT	EER	1.9	2.0	1.9	1.8	1.8
	kW	45	52	61	71	81
	A	80	93	109	127	145
OPERATING	Heating water temp range	15~40	15~40	15~40	15~40	15~40
	Cooling water temp range	12~30	12~30	12~30	12~30	12~30
	Ambient temp range	-15~53	-15~53	-15~53	-15~53	-15~53
KEY	Compressor type	Scroll*4	Scroll*4	Scroll*2	Scroll*2	Scroll*2
	Controller	micro processor based digital controller with LCD touch screen display				
HEATING EXCHANGER	Noise	54	57	58	58	65
	Type	Titanium /PVC	Titanium /PVC	Titanium /PVC	Titanium /PVC	Titanium /PVC
	Water flow	31.8	37.6	41.9	48.7	58.1
FAN	Water pressure drop (max)	25	26	28	28	28
	Water connection	flange/ 4"	flange/ 4"	flange/ 4"	flange/ 4"	flange/ 4"
	Fan Position	Verticle	Verticle	Verticle	Verticle	Verticle
DIMENSIONS (L x W x H)	Material	Plastic	Plastic	Plastic	Plastic	Plastic
	Net	2018/1056/2078	2239/1185/2267	2239/1185/2267	2239/1185/2267	2320/1240/2340
	Shipping	2080/1136/2122	2300/1265/2340	2300/1265/2340	2300/1265/2340	2407/1325/2530
WEIGHT	-	588/631	854/920	866/932	922/998	

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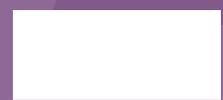
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