

# Swimming Pool Chiller & Heat Pump

On/off & Inverter Type

Blueway Swimming Pool Chiller & Heat Pump is specially designed and engineered for water temperature control of swimming pool and spa in the hot summer and cold winter. The unit works as a chiller in summer and heat pump in other seasons, offering the most energy efficient pool & spa chilling and heating.

Compared to gas, oil, or electric heaters, operation cost of swimming pool water chiller & heat pumps is up to 60%~80% less, saving your expenses in energy costs each year. Additionally, thanks to the ideal design of the systems, the T3 SPCH series units are able to withstand the harsh summer weather conditions and can operate at ambient temperature as high as 53°C. In the gulf area without compressor tripping or failure.

Blueway SPCH units are not only highly efficient, but also easy and safe to operate, providing the maximum comfort the whole year through.

WHETHER HOT OR COLD WEATHER, OUTDOOR SWIMMING AND SPA ARE NO LONGER UNREACHABLE DREAMS!

—ENJOY COMFORTABLE SWIMMING AND SPA WITH BLUEWAY SPCHs, REGARDLESS AMBIENT TEMPERATURE AND LOCATION.

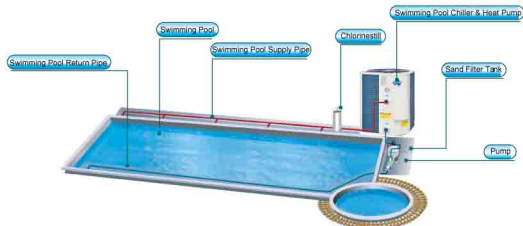
## Connection



- 1 Swimming Pool
- 2 Chlorinator
- 3 Pump
- 4 Sand Filter
- 5 Swimming Pool Chiller & Heat Pump

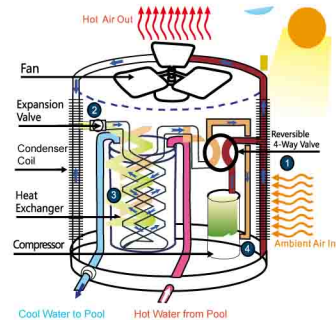


## Application



## How does A SPCH 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 expansion valve, 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.

### AS A HEAT PUMP

#### 1 STAGE ONE

The heat transfer medium (the refrigerant) is colder than the outside air. As the outside air passes across the evaporator coil, the liquid refrigerant absorbs heat from the air and evaporates.

#### 2 STAGE TWO

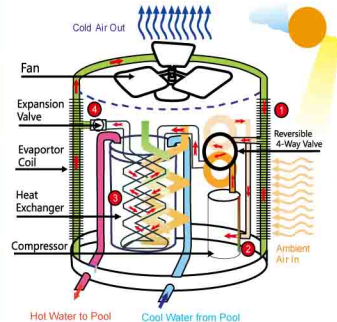
The gaseous refrigerant then passes to the compressor and is compressed. When compressed, the pressure is increased and the temperature of the vapor rises, effectively concentrating the heat.

#### 3 STAGE THREE

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.

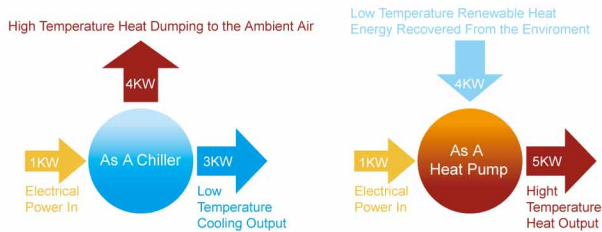
#### 4 STAGE FOUR

The liquid refrigerant then passes through an expansion valve, reducing its pressure and temperature, ready to start the whole cycle once again.



# WHY DO BLUEWAY SWIMMING POOL CHILLER & HEAT PUMPS SAVE ENERGY?

**Blueway Swimming Pool Chiller & Heat Pump** consumes much less electric power than a traditional electric heater. The electric power it consumes is only to operate the compressor, fan and water pump. For every 1kW electricity it consumes, the unit will generate up to 5kW heating capacity, which means 4kW capacity are totally free.



## Reliable Quality of Key Components

### Evaporator / Condenser Coil

The evaporator or condenser coil used is of fin and tube type. The fins are hydrophilic treated aluminum fins to resist corrosion, and the copper tubes are inner-grooved type, which increases the heat transfer in the refrigerant side.



### Intelligent Control



The units are supplied with micro processor based digital controller with LCD display. The controller is programmed to provide a maximum protection to the heat pump system and accurate temperature control. The control panel is completely factory wired with all accessories and terminals included.

### High Efficiency Marine-Grade Titanium Heat Exchanger

- 1) High efficiency and super corrosion resistant
- 2) High working pressure
- 3) Reliability and long lasting life span
- 4) Low maintenance



### High Efficiency Rotary or Scroll Compressor

- 1) With tropical resistance capacity
- 2) High efficiency and energy saving
- 3) Quiet operation due to less moving parts
- 4) Adopt famous brand rotary or scroll compressor

## Features & Highlights



- Using heat energy from ambient & reproduces more heat energy, saving 60%~80% energy compared to traditional heaters.
- Titanium tube-in-shell heat exchanger resists harsh pool chemicals and corrosion.
- Providing heating in winter and chilling in summer for spa and swimming pool in domestic and commercial applications.
- Long-life and corrosion resistant composite cabinet stands up to severe climates & pool chemicals.
- Famous brand compressor ensures outstanding performance, ultra energy efficiency, durability and quiet operation.
- Intelligent digital controller with friendly user interface and blue LCD back light.
- Self-diagnostic control panel monitors and troubleshoots heat pump operations to ensure safe and reliable operation.
- Separate isolated electrical compartment prevents internal corrosion and extends heat pump life.

## Product Appearance



## Inverter Swimming Pool Chiller & Heat Pump (50Hz/60Hz) (Inverter Type)

Technical Specifications

Model	SPCH-2.0V	SPCH-3.0V	SPCH-4.0V	SPCH-5.0V	SPCH-6.0V	SPCH-8.0V	SPCH-10V	SPCH-12V	SPCH-15V	SPCH-20V	SPCH-25V		
HP	2	3	4	5	6	8	10	12	15	20	25		
Power heads		50-70/60/50, 50-70/60/50						50-60/50/50, 50-70/60/50, 50-60/50/50					
Heating	Heating capacity	kW/h	2.9/6	3.0/12	4.0/17	5.0/18	6.0/24	5.0/18	6.0/24	7.0/28	9/36	12/30	16/33
		Power consumption	kWh	0.7/1.05	0.9/1.25	0.9/1.25	0.8/1.15	0.5/1.5	0.7/1.45	0.9/1.45	0.9/1.9	1.2/1.5	1.5/1.9
	COP	W/W	13.5/3.45	12.9/1.4	12.5/1.31	13.9/1.48	13.5/1.48	13.9/1.48	12.1/1.51	12.4/1.48	12.4/1.48	12.4/1.48	12.4/1.48
		W/W	1.6/1.5	2.2/1.5	3.1/1.5	4/1.5	9/1.5	4/1.5	9/1.5	4/1.5	9/1.5	10/1.5	10/1.5
Cooling	Heating capacity	kW/h	0.7/1.7	0.9/1.1	0.8/1.1	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4
		Power consumption	kWh	0.7/1.7	0.9/1.1	0.8/1.1	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4
	COP	W/W	0.7/4.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4
		W/W	0.7/4.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4	0.8/1.4
Cooling capacity	kW/h	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	0.7/1.5	
	Power consumption	kWh	0.4/1.7	0.5/1.25	0.5/1.2	0.5/1.25	0.5/1.25	0.5/1.25	0.5/1.25	0.5/1.25	0.5/1.25	0.5/1.25	
EER	W/W	4.9/1.25	4.9/1.25	0.9/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	
	W/W	4.9/1.25	4.9/1.25	0.9/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	5.1/1.25	
Ambient temp. range	°C	-7~46											
Rated/Max. water temp.	°C	26/30											
Rated water flow rate	m³/h	1.8	2.2	2.2	2.6	3.0	3.3	3.3	3.3	3.3	3.3	3.3	
Rated pressure drop	kPa	4	5	5	7	13	7	13	13	13	17	23	
Controller	Micro processor based digital water controller with LCD display												
Control cabinet	Exhausted cabinet with powder coating												
Compressor	Type	Inverter										Scroll	
	Size	Min.	1										2
	Refrigerant	R32/R410A											
Water heat exchanger	Titanium tube in PVC shell												
Water connection	Installation	inch	3/4	1	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	
Sound pressure at 1m	dB(A)	40/55	42/52	44/53	45/56	46/56	45/56	46/56	46/56	46/56	46/56	46/56	
Warranty	Warranty	Top 3-year											
Warranty	Warranty	3 years	3/3/6/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	3/3/3/3/3/3	
W weight	kg	10	12	13	13	13	13	13	13	13	20	25	

Notes:  
 1. Conditions of Heating (H): Ambient air temperature: 15°C, Humidity: 50%, Max/Min water temperature: 30/10°C.  
 2. Conditions of Heating (C): Ambient air temperature: 15°C, Humidity: 50%, Max/Min water temperature: 30/10°C.  
 3. Conditions of Cooling (C): Ambient air temperature: 35°C, Humidity: 50%, Max/Min water temperature: 30/10°C.  
 Blueway reserves the rights to modify the above specifications without notice for product improvement.





(On/Off Type)

Technical Specifications

Model		SPCH1.05	SPCH1.55	SPCH3.05	SPCH3.05	SPCH3.55	SPCH3.05	SPCH5	SPCH7.5		
HP		1	1.5	2	3	3.5	5	6	7		
Power Supply		220-240/50/1				380-415/50/3					
Heating performance	Heating (1) A2/C Humidity 80% W28/28°C	Heating capacity	kWh	4.3	6.5	8.6	12.9	14	21.5	26	28.5
		l/s/h	14072	22178	29343	44015	47768	73958	88712	10004	
		Power consumption	kW	0.75	1.18	1.51	2.28	2.45	3.63	4.41	4.96
	COP	w/w	5.73	5.5	5.7	5.65	5.71	5.92	5.9	5.95	
	Heating (2) A1/C Humidity 70% W28/28°C	Heating capacity	kWh	3.8	5.7	7.6	11.4	12.37	15.8	19	21
		l/s/h	12966	19448	25911	38807	42296	53900	64628	74102	
Power consumption		kW	0.85	1.32	1.69	2.55	2.77	3.21	3.96	4.29	
COP	w/w	4.47	4.31	4.5	4.47	4.47	4.9	4.8	4.9		
Cooling performance	Cooling A3/C W28/28°C	Heating capacity	kWh	2.7	3.6	5.6	8.2	10.2	11.6	15.5	17.5
		l/s/h	9212	12283	19207	27978	34632	46403	52886	59720	
	Power consumption	kW	0.82	1.07	1.69	2.46	2.46	4.14	4.39	5.15	
	EER	w/w	3.3	3.35	3.32	3.33	3.33	3.28	3.38	3.4	
Ambient temp. range	°C	-7~46									
Rated/Max.outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	1.8	2.8	3.7	5.5	6.0	9.2	13.2	12.7		
Rated pressure drop	MPa	10	12	12	15	15	16	16	16		
Controller	-	Micro processor based digital wire controller with LCD display									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Rotary									
	Qty.	1									
	Refrigerant	R32/R410a									
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet/Outlet	Inch	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	
Sound pressure at 1m	dB(A)	48	50	52	54	54	58	59	59		
Air discharge	-	Side discharge									
Net dimension	W*D*H	mm	930*360*550	930*360*550	1030*370*620	1115*470*700	1133*470*700	1300*430*1275	1300*430*1275		
Net weight	kg	40	41	44	46	46	52	55	59		

Notes:  
 1. Conditions of "Heating (1)": Ambient air temperature: 28°C, Humidity 80%, Inlet/Outlet water temperature: W28/28°C  
 2. Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W28/28°C  
 3. Conditions of "Cooling": Ambient air temperature: 35°C, Inlet/Outlet water temperature: W28/28°C  
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Residential Swimming Pool Chiller & Heat Pump (60Hz)

(On/Off Type)

Technical Specifications

Model		SPCH1.05a	SPCH1.55a	SPCH3.05a	SPCH3.05a	SPCH3.55a	SPCH3.05a	SPCH5a	SPCH7.5a		
HP		1	1.5	2	3	3.5	5	6	7		
Power Supply		208-230/60/1				380-415/60/3					
Heating performance	Heating (1) A2/C Humidity 80% W28/28°C	Heating capacity	kWh	3.9	5.60	8.0	10.5	14	21	26.50	30.00
		l/s/h	13107	19107	27296	35326	47768	69946	94818	102360	
		Power consumption	kW	0.70	1.02	1.40	1.94	2.6	3.60	4.49	5.26
	COP	w/w	5.6	5.5	5.7	5.4	5.4	5.7	5.9	5.7	
	Heating (2) A1/C Humidity 70% W28/28°C	Heating capacity	kWh	3.10	4.20	5.8	8	10.6	15	20.00	23.0
		l/s/h	10577	14330	19790	27296	36937	51840	68240	78476	
Power consumption		kW	0.67	0.95	1.29	1.78	2.36	3.26	4.26	5.11	
COP	w/w	4.6	4.4	4.5	4.5	4.5	4.6	4.7	4.5		
Cooling performance	Cooling A3/C W28/28°C	Heating capacity	kWh	2.7	3.60	5.60	7.5	9.75	13.5	16.0	18
		l/s/h	9212	12283	19207	25900	29855	40622	54952	65416	
	Power consumption	kW	0.82	1.07	1.69	2.33	2.6	4.35	4.79	5.20	
	EER	w/w	3.3	3.35	3.32	3.36	3.36	3.35	3.34	3.4	
Ambient temp. range	°C	-7~46									
Rated/Max.outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	1.7	2.4	3.4	4.5	6	8.8	11.4	12.9		
Rated pressure drop	MPa	10	12	12	15	15	16	16	16		
Controller	-	Micro processor based digital wire controller with LCD display									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Rotary									
	Qty.	1									
	Refrigerant	R32/R410a									
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet/Outlet	Inch	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"		
Sound pressure at 1m	dB(A)	48	50	52	54	56	58	59	59		
Air discharge	-	Side discharge									
Net dimension	W*D*H	mm	930*360*550	930*360*550	1030*370*620	1115*470*700	1133*470*700	1300*430*1275	1300*430*1275		
Net weight	kg	40	41	44	46	46	52	55	59		

Notes:  
 1. Conditions of "Heating (1)": Ambient air temperature: 28°C, Humidity 80%, Inlet/Outlet water temperature: W28/28°C  
 2. Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W28/28°C  
 3. Conditions of "Cooling": Ambient air temperature: 35°C, Inlet/Outlet water temperature: W28/28°C  
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*(On/Off Type)*  
Technical Specifications

Commercial Swimming Pool Chiller & Heat Pump (50Hz)

Model		SPCH10	SPCH12	SPCH15	SPCH20	SPCH25	SPCH30	SPCH40	SPCH50		
HP		10	12	15	20	25	30	40	50		
Power Supply		V/Hz/Ph									
		380-415/50/3									
Heating performance	Heating (1) Δ26°C Humidity 80% W26/28°C	Heating capacity	kWh	45	55	65	90	120	145	150	220
		Heating capacity	btu/h	15340	18760	22170	30780	40940	49470	48280	75040
		Power consumption	kW	8	10	12	17	22	26	35	40
		COP	W/W	5.6	5.6	5.5	5.4	5.5	5.6	5.4	5.5
	Heating (2) Δ15°C Humidity 90% W20/22°C	Heating capacity	kWh	38	47	55	77	102	123	162	187
		Heating capacity	btu/h	13050	15911	18853	26108	34824	42029	55038	63604
Power consumption		kW	8	9	11	16	21	25	34	39	
	COP	W/W	4.9	4.9	4.8	4.8	4.8	4.9	4.8	4.8	
Cooling performance	Cooling Δ13°C W20/22°C	Heating capacity	kWh	35	42	51	70	88	105	140	175
		Heating capacity	btu/h	11940	14330	17130	23840	29850	35820	47080	59700
	Power consumption	kW	9	11	13	19	23	28	37	46	
	EER	W/W	3.9	3.8	4	3.75	3.8	3.7	3.8	3.8	
Ambient temp. range	°C	-7~46									
Rated/Max.outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	19.3	23.6	27.9	38.7	51.6	62.3	81.7	94.6		
Rated pressure drop	MPa	18	18	18	18	25	30	30	30		
Controller	-	Micro processor based digital wire controller with LCD display									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Scroll									
	Qty.	Nil	1 or 2	2	2	2	4	4	4		
	Refrigerant	R32/R410a									
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet/Outlet	DN50	DN50	DN50	DN50	DN63	DN75	DN110	DN110		
Sound pressure at 1m	dB(A)	56	56	56	62	62	62	65	65		
Air discharge	-	Top discharge									
Net dimension	W*D*H	mm	1470*850*950	1470*850*950	2000*950*2000	2000*950*2100	2000*1300*2000	2000*1300*2000	2000*1300*2100		
Net weight	kg	380	380	500	570	600	1140	1190	1180		

Notes:  
 1.Conditions of "Heating (1)": Ambient air temperature: 24°C, Humidity 80%, Inlet/Outlet water temperature: W26/28°C;  
 2.Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 90%, Inlet/Outlet water temperature: W20/22°C;  
 3.Conditions of "Cooling": Ambient air temperature: 31°C, Inlet/Outlet water temperature: W20/22°C;  
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Commercial Swimming Pool Chiller & Heat Pump (60Hz)

*(On/Off Type)*  
Technical Specifications

Model		SPCH10a	SPCH12a	SPCH15a	SPCH20a	SPCH25a	SPCH30a	SPCH40a	SPCH50a		
HP		10	12	15	20	25	30	40	50		
Power Supply		V/Hz/Ph									
		208-230/60/3, 380-415/60/3									
Heating performance	Heating (1) Δ26°C Humidity 80% W26/28°C	Heating capacity	kWh	52	65	75	105	135	165	220	250
		Heating capacity	btu/h	177424	21780	25590	35820	46020	54280	70640	85300
		Power consumption	kW	9	12	14	19	25	29	41	45
		COP	W/W	5.6	5.6	5.5	5.4	5.5	5.6	5.4	5.5
	Heating (2) Δ15°C Humidity 90% W20/22°C	Heating capacity	kWh	44	55	64	89	115	140	187	213
		Heating capacity	btu/h	150810	188113	217515	304521	393527	478533	638644	725050
Power consumption		kW	9	11	13	19	24	28	39	44	
	COP	W/W	4.9	4.9	4.8	4.8	4.9	4.9	4.8	4.8	
Cooling performance	Cooling Δ13°C W20/22°C	Heating capacity	kWh	40	48	61	80	100	120	160	200
		Heating capacity	btu/h	136480	163776	208132	272960	342300	405440	545920	682400
	Power consumption	kW	10	13	15	21	26	32	42	53	
	EER	W/W	3.9	3.8	4	3.75	3.8	3.7	3.8	3.8	
Ambient temp. range	°C	-7~46									
Rated/Max.outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	22.4	27.9	32.2	45.1	58.0	70.9	94.6	107.5		
Rated pressure drop	MPa	18	18	18	18	25	30	30	30		
Controller	-	Micro processor based digital wire controller with LCD display									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Scroll									
	Qty.	Nil	1 or 2	2	2	2	4	4	4		
	Refrigerant	R32/R410a									
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet/Outlet	DN50	DN50	DN50	DN50	DN63	DN75	DN110	DN110		
Sound pressure at 1m	dB(A)	56	56	56	62	62	62	65	65		
Air discharge	-	Top discharge									
Net dimension	W*D*H	mm	1470*850*950	1470*850*950	2000*950*2100	2000*950*2100	2000*1300*2000	2000*1300*2000	2000*1300*2100		
Net weight	kg	380	380	500	570	600	1140	1190	1180		

Notes:  
 1.Conditions of "Heating (1)": Ambient air temperature: 24°C, Humidity 80%, Inlet/Outlet water temperature: W26/28°C;  
 2.Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 90%, Inlet/Outlet water temperature: W20/22°C;  
 3.Conditions of "Cooling": Ambient air temperature: 31°C, Inlet/Outlet water temperature: W20/22°C;  
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**(On/Off Type)**  
**Technical Specifications**

**T3 Residential Swimming Pool Chiller & Heat Pump (50Hz)**

Model		T-SPCH3.5V	T-SPCH5V	T-SPCH7V	
HP		3.5	5	7	
Power Supply		V/Hz/Ph	380-415/50/3		
Heating performance	Heating (1): A25°C Humidity 80% W26/28°C	Heating capacity	kW/h 14	25.5	35.7
			btu/h 47800	87000	121800
		Power consumption	kW 2.45	5.31	7.44
		COP	w/w 5.7	4.8	4.8
	Heating (2): A15°C Humidity 70% W26/28°C	Heating capacity	kW/h 10.40	19.89	27.84
			btu/h 35500	67860	95004
		Power consumption	kW 2.36	4.71	6.59
		COP	w/w 4.4	4.2	4.2
Cooling performance	Cooling (1): A35°C W30/28°C	Cooling capacity	kW/h 9.34	17.58	24.62
			btu/h 31866	60000	84000
		Power consumption	kW 3.11	6.28	8.92
		EER	w/w 2.81	2.8	2.76
	Cooling (2): A45°C W30/28°C	Cooling capacity	kW/h 7.94	14.95	20.93
			btu/h 27086	51000	71400
		Power consumption	kW 4.18	7.91	10.96
		EER	w/w 1.9	1.89	1.91
Ambient temp. range	°C	-7~53			
Rated/Max.outlet water temp.	°C	28/40			
Rated water flow rate	m³/h	6	11	15.3	
Rated pressure drop	kPa	15	16	16	
Controller	-	Micro processor based digital wire controller with LCD display			
Fan blade	-	Aluminum			
External cabinet	-	Galvanized steel with powder coating			
Compressor	Type	Rotary			
	Qty.	1			
	Refrigerant	R410a			
Water heat exchanger	-	Titanium tube in PVC shell			
Water connection	Inlet&Outlet	inch 1-1/2"	1-1/2"	1-1/2"	
Sound pressure at 1m	dB(A)	55	55	55	
Air discharge	-	Top discharge			
Net dimension	W*D*H	mm 720*630*750	850*745*875	850*745*875	
Net weight	kg	72	110	120	

- Notes:  
 1.Conditions of "Heating (1)": Ambient air temperature: 26°C, Humidity 80%, Inlet/Outlet water temperature: W26/28°C;  
 2.Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W26/28°C;  
 3.Conditions of "Cooling (1)": Ambient air temperature: 35°C, Inlet/Outlet water temperature: W30/28°C;  
 4.Conditions of "Cooling (2)": Ambient air temperature: 45°C, Inlet/Outlet water temperature: W30/28°C;

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**(On/Off Type)**  
**Technical Specifications**

**T3 Residential Swimming Pool Chiller & Heat Pump (60Hz)**

Model		T-SPCH3.5Va	T-SPCH5Va	T-SPCH7Va	
HP		3.5	5	7	
Power Supply		V/Hz/Ph	208-230/60/1		
Heating performance	Heating (1): A25°C Humidity 80% W26/28°C	Heating capacity	kW/h 14	25.5	35.7
			btu/h 47800	87000	121800
		Power consumption	kW 2.45	5.31	7.44
		COP	w/w 5.7	4.8	4.8
	Heating (2): A15°C Humidity 70% W26/28°C	Heating capacity	kW/h 10.40	19.89	27.84
			btu/h 35500	67860	95004
		Power consumption	kW 2.36	4.71	6.59
		COP	w/w 4.4	4.2	4.2
Cooling performance	Cooling (1): A35°C W30/28°C	Cooling capacity	kW/h 9.34	17.58	24.62
			btu/h 31866	60000	84000
		Power consumption	kW 3.11	6.28	8.92
		EER	w/w 2.81	2.8	2.76
	Cooling (2): A45°C W30/28°C	Cooling capacity	kW/h 7.94	14.95	20.93
			btu/h 27086	51000	71400
		Power consumption	kW 4.18	7.91	10.96
		EER	w/w 1.9	1.89	1.91
Ambient temp. range	°C	-7~53			
Rated/Max.outlet water temp.	°C	28/40			
Rated water flow rate	m³/h	6	11	15.3	
Rated pressure drop	kPa	15	16	16	
Controller	-	Micro processor based digital wire controller with LCD display			
Fan blade	-	Aluminum			
External cabinet	-	Galvanized steel with powder coating			
Compressor	Type	Rotary			
	Qty.	1			
	Refrigerant	R410a			
Water heat exchanger	-	Titanium tube in PVC shell			
Water connection	Inlet&Outlet	inch 1-1/2"	1-1/2"	1-1/2"	
Sound pressure at 1m	dB(A)	55	55	55	
Air discharge	-	Top discharge			
Net dimension	W*D*H	mm 720*630*750	850*745*875	850*745*875	
Net weight	kg	72	110	120	

- Notes:  
 1.Conditions of "Heating (1)": Ambient air temperature: 26°C, Humidity 80%, Inlet/Outlet water temperature: W26/28°C;  
 2.Conditions of "Heating (2)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W26/28°C;  
 3.Conditions of "Cooling (1)": Ambient air temperature: 35°C, Inlet/Outlet water temperature: W30/28°C;  
 4.Conditions of "Cooling (2)": Ambient air temperature: 45°C, Inlet/Outlet water temperature: W30/28°C;

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**(On/Off Type)**  
Technical Specifications

**T3 Commercial Swimming Pool Chiller & Heat Pump (50Hz)**

Model		T-SPCH10	T-SPCH12	T-SPCH15	T-SPCH20	T-SPCH25	T-SPCH30	T-SPCH40	T-SPCH50		
HP		10	12	15	20	25	30	40	50		
Power Supply		V/Ph/Hz		380-415/3/50							
Heating performance	Heating (1): A35°C Humidity 80% WS/28°C	Heating capacity	kW/h	46	55	69	91	114	137	183	229
		btu/h	156000	187200	234000	312000	390000	468000	624000	780000	
		Power consumption	kW	9.33	11.20	14.59	19.05	24.32	29.58	40.04	49.7
	CoP	w/w	4.8	4.9	4.7	4.8	4.7	4.7	4.5	4.5	
	Heating (2): A35°C Humidity 70% WS/28°C	Heating capacity	kW/h	36	43	53	71	89	107	143	178
		btu/h	121680	146016	182520	243360	304200	365040	486720	608400	
Power consumption		kW	8.49	9.95	13.09	16.98	22.29	26.69	35.66	44.58	
CoP	w/w	4.2	4.3	4.1	4.2	4.0	4.1	4.0	4.0		
Cooling performance	Cooling (1): A35°C WS/28°C	Cooling capacity	kW/h	35	42	53	70	88	106	141	176
		btu/h	120000	144000	180000	240000	300000	360000	480000	600000	
		Power consumption	kW	13.48	16.11	20.37	26.54	33.56	40.43	53.49	67.9
	Cooling (2): A35°C WS/28°C	Cooling capacity	kW/h	2.61	2.62	2.59	2.65	2.62	2.61	2.63	2.59
		btu/h	9000	9000	8900	9100	9000	9100	9000	9100	
		Power consumption	kW	14.87	17.58	21.87	27.94	37.75	47.50	59.88	73.63
CoP	w/w	2.01	2.10	2.05	2.14	1.98	2.13	2.14	2.03		
Ambient temp. range	°C	-7~53									
Rated/Max outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	19.7	23.6	29.5	39.3	49.1	59.0	78.6	98.3		
Rated pressure drop	kPa	18	18	18	18	25	30	30	30		
Controller	-	Micro processor based digital wire controller with LCD display									
Fan blade	-	Aluminum									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Scroll									
	Qty	1 or 2		2		4					
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet&Outlet	inch	DN50	DN50	DN50	DN50	DN63	DN75	DN110	DN110	
Sound pressure at 1m	(dB(A))	56	56	56	56	62	62	62	65	65	
Air discharge	-	Top discharge									
Net dimension	W*D*H	mm	1480*840*1995	1480*840*1995	1480*840*1995	2000*950*2200	2000*950*2200	2000*1300*2200	2000*1300*2200	2000*1300*2200	
Net weight	kg	230	230	235	280	290	300	360	360	380	

Notes:  
 1. Conditions of Heating (1): Ambient air temperature: 28°C, Humidity 80%, Inlet/Outlet water temperature: WS/28°C;  
 2. Conditions of Heating (2): Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: WS/28°C;  
 3. Conditions of Cooling (1): Ambient air temperature: 35°C, Inlet/Outlet water temperature: WS/28°C;  
 4. Conditions of Cooling (2): Ambient air temperature: 45°C, Inlet/Outlet water temperature: WS/28°C;  
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**(On/Off Type)**  
Technical Specifications

**T3 Commercial Swimming Pool Chiller & Heat Pump (60Hz)**

Model		T-SPCH10a	T-SPCH12a	T-SPCH15	T-SPCH20a	T-SPCH25	T-SPCH30a	T-SPCH40a	T-SPCH50a		
HP		10	12	15	20	25	30	40	50		
Power Supply		V/Ph/Hz		208-230/3/60							
Heating performance	Heating (1): A35°C Humidity 80% WS/28°C	Heating capacity	kW/h	46	55	69	91	114	137	183	229
		btu/h	156000	187200	234000	312000	390000	468000	624000	780000	
		Power consumption	kW	9.33	11.41	14.59	19.05	24.95	29.14	40.04	50.8
	CoP	w/w	4.8	4.8	4.7	4.8	4.6	4.7	4.5	4.5	
	Heating (2): A35°C Humidity 70% WS/28°C	Heating capacity	kW/h	36	43	53	71	89	107	143	178
		btu/h	121680	146016	182520	243360	304200	365040	486720	608400	
Power consumption		kW	8.67	10.13	13.09	16.99	22.83	27.87	36.02	45.03	
CoP	w/w	4.3	4.2	4.3	4.2	4.0	4.1	4.0	4.0		
Cooling performance	Cooling (1): A35°C WS/28°C	Cooling capacity	kW/h	35	42	53	70	88	106	141	176
		btu/h	120000	144000	180000	240000	300000	360000	480000	600000	
		Power consumption	kW	13.48	16.11	20.37	26.54	33.56	40.43	53.49	67.9
	Cooling (2): A35°C WS/28°C	Cooling capacity	kW/h	2.61	2.62	2.59	2.65	2.62	2.61	2.63	2.59
		btu/h	9000	9000	8900	9100	9000	9100	9000	9100	
		Power consumption	kW	14.87	17.08	21.87	27.94	37.75	47.50	59.88	73.63
CoP	w/w	2.01	2.10	2.05	2.14	1.98	2.13	2.14	2.03		
Ambient temp. range	°C	-7~53									
Rated/Max outlet water temp.	°C	26/40									
Rated water flow rate	m <sup>3</sup> /h	19.7	23.6	29.5	39.3	49.1	59.0	78.6	98.3		
Rated pressure drop	kPa	18	18	18	18	25	30	30	30		
Controller	-	Micro processor based digital wire controller with LCD display									
Fan blade	-	Aluminum									
External cabinet	-	Galvanized steel with powder coating									
Compressor	Type	Scroll									
	Qty	1 or 2		2		4					
Water heat exchanger	-	Titanium tube in PVC shell									
Water connection	Inlet&Outlet	inch	DN50	DN50	DN50	DN50	DN63	DN75	DN110	DN110	
Sound pressure at 1m	(dB(A))	56	56	56	56	62	62	62	65	65	
Air discharge	-	Top discharge									
Net dimension	W*D*H	mm	1480*840*1995	1480*840*1995	1480*840*1995	2000*950*2200	2000*950*2200	2000*1300*2200	2000*1300*2200	2000*1300*2200	
Net weight	kg	230	230	235	280	290	300	360	360	380	

Notes:  
 1. Conditions of Heating (1): Ambient air temperature: 28°C, Humidity 80%, Inlet/Outlet water temperature: WS/28°C;  
 2. Conditions of Heating (2): Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: WS/28°C;  
 3. Conditions of Cooling (1): Ambient air temperature: 35°C, Inlet/Outlet water temperature: WS/28°C;  
 4. Conditions of Cooling (2): Ambient air temperature: 45°C, Inlet/Outlet water temperature: WS/28°C;  
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## (Inverter Type)

## Technical Specifications

## T3 Inverter Swimming Pool Chiller &amp; Heat Pump (50Hz)

Model		T-SPCH-1-10V	T-SPCH-1-15.0V	T-SPCH-1-20V	T-SPCH-1-30V	T-SPCH-1-40V	T-SPCH-1-50V	T-SPCH-1-60V	T-SPCH-1-80	T-SPCH-1-100	T-SPCH-1-120	T-SPCH-1-200	T-SPCH-1-250
HP		3	5	6	8	10	12	15	18	22	26	28	35
Power Supply		220-240/50/1						380-415/50/3					
Heating performance	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	COP	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	COP	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
Cooling performance	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	EEER	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	EEER	w/w											
	Rated/Max. outdoor water temp.	°C											
	Rated/Max. water flow rate	m <sup>3</sup> /h											
Rated pressure drop	kPa												
Controller	Micro processor based digital wire controller with LCD display												
Fan blade	Aluminium												
External cabinet	Galvanized steel with powder coating												
Compressor	Type	Rotary											Scroll
	Qty.	1											2
Refrigerant	R410a												
Water heat exchanger	Titanium tube in PVC shell												
Water connection	Inlet&Outlet	inch DN50 DN50 DN50 DN50 DN65 DN65 DN80 DN80											
Sound pressure at 2m	(dB(A))	42~52 46~58 47~59 46~58 47~59 46~52 49~63 62~72 62~72											
Air discharge	Top discharge												
Net dimension	W*H*D	mm 720*1880*750 850*1815*875 850*1815*875 850*1815*875 1480*1845*995 1480*1845*995 2000*1950*1200 2000*1950*1200											
Net weight	kg	72 120 130 130 120 230 235 285 290											

Notes:  
 1. Conditions of "Heating (H)": Ambient air temperature: 24°C, Humidity 80%, Inlet/Outlet water temperature: W32/28°C;  
 2. Conditions of "Heating (H)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W32/28°C;  
 3. Conditions of "Cooling (C)": Ambient air temperature: 31°C, Inlet/Outlet water temperature: W32/28°C;  
 4. Conditions of "Cooling (C)": Ambient air temperature: 41°C, Inlet/Outlet water temperature: W32/28°C.

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## (Inverter Type)

## Technical Specifications

## T3 Inverter Swimming Pool Chiller &amp; Heat Pump (60Hz)

Model		T-SPCH-1-10V	T-SPCH-1-15.0V	T-SPCH-1-20V	T-SPCH-1-30V	T-SPCH-1-40V	T-SPCH-1-50V	T-SPCH-1-60V	T-SPCH-1-80	T-SPCH-1-100	T-SPCH-1-120	T-SPCH-1-200	T-SPCH-1-250
HP		3	5	6	8	10	12	15	18	22	26	28	35
Power Supply		208-230/60/1						208-230/60/3					
Heating performance	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	COP	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	COP	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
Cooling performance	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	EEER	w/w											
	Heating capacity	kW/h											
	Power consumption	kW											
	Current	A											
	EEER	w/w											
	Rated/Max. outdoor water temp.	°C											
	Rated/Max. water flow rate	m <sup>3</sup> /h											
Rated pressure drop	kPa												
Controller	Micro processor based digital wire controller with LCD display												
Fan blade	Aluminium												
External cabinet	Galvanized steel with powder coating												
Compressor	Type	Rotary											Scroll
	Qty.	1											2
Refrigerant	R410a												
Water heat exchanger	Titanium tube in PVC shell												
Water connection	Inlet&Outlet	inch DN50 DN50 DN50 DN50 DN65 DN65 DN80 DN80											
Sound pressure at 2m	(dB(A))	42~52 46~58 47~59 46~58 47~59 46~52 49~63 62~72 62~72											
Air discharge	Top discharge												
Net dimension	W*H*D	mm 720*1880*750 850*1815*875 850*1815*875 850*1815*875 1480*1845*995 1480*1845*995 2000*1950*1200 2000*1950*1200											
Net weight	kg	72 130 130 130 120 230 235 285 290											

Notes:  
 1. Conditions of "Heating (H)": Ambient air temperature: 24°C, Humidity 80%, Inlet/Outlet water temperature: W32/28°C;  
 2. Conditions of "Heating (H)": Ambient air temperature: 15°C, Humidity 70%, Inlet/Outlet water temperature: W32/28°C;  
 3. Conditions of "Cooling (C)": Ambient air temperature: 31°C, Inlet/Outlet water temperature: W32/28°C;  
 4. Conditions of "Cooling (C)": Ambient air temperature: 41°C, Inlet/Outlet water temperature: W32/28°C.

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