



POOL HEATING

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ELECTRO IN-LINE HEATER

Swimming Pool Heater with Ultra Efficient Titanium Heating Elements 3-kW to 18-kW

SPECIFICATION

The Electro IN-LINE pool heater is manufactured from top quality components. It is based on the tried and tested Electro Evolution swimming pool heater, with numerous enhancements. Construction consists of a pure titanium flow tube which is fitted with Inlet and Outlet mouldings manufactured from specially formulated polymer alloy material. Spiral wound titanium heating elements provide a 'Vortex' water flow, these elements guarantees extended life and reliability. The outlet moulding accommodates a reversible flow switch, sending a digital signal to the control board. The heater is supported on two swivel feet, these can swivel to facilitate either wall or floor mounting. The LCD display, indicator lights and keypad are positioned on the front face of the casing. The water inlet and outlet fittings can facilitate connection to either metric or imperial standard pipe. The inlet moulding has been designed to ensure full immersion of the elements, greatly reducing the risks of air locking.

OPERATION

The desired pool temperature can be easily input into the digital controller using the keypad. The actual and required pool temperatures are displayed on the LCD screen. The IN-LINE+ also features a Priority of Heating facility, this is a function that ensure that the pool water temperature is constantly maintained. When Priority of heating is activated, the control system monitors the pool temperature and starts both the pool circulation pump and heating process if necessary. The heater is supplied with a plug in cable to allow connection to an external filtration pump timer / contactor. The single or three-phase power is switched via an integral Schnieder contactor. Safety and equipment protection is provided by the highly reliable flow switch. Over-temperature protection is provided by the manual reset safety thermal cutout switch.

- Robust, durable construction
- Can be safely used on both low &
- High flow rate systems
- Multiple Safety features
- Digital control for increased
- Accuracy, featuring 'Priority
- Heating' filtration pump control
- Corrosion resistant titanium
- Heating elements
- Corrosion resistant titanium flowtube
- Straight Flow' design for ease of installation,
- Lower pressure drop, higher flow
- Ultra-reliable digital flow signal, no pump
- Interlock required
- Simple operation
- Floor or wall mountable
- Safety thermal cut-out (manual reset)

Code	Power Output	Load	Length (mm)	m ³	U
230V 1 PHASE					
00760003	3-KW	13-Amp	462	0.02	x1
00760006	6-KW	27-Amp	462	0.02	x1
00760009	9-KW	40-Amp	462	0.02	x1
00760012	12-KW	53-Amp	462	0.02	x1
00760015	15-KW	66-Amp	592	0.02	x1
00760018	18-KW	79-Amp	592	0.02	x1
400V 3 PHASE					
00770003	6-KW	9-Amp	592	0.02	x1
00770006	9-KW	13-Amp	592	0.02	x1
00770009	12-KW	18-Amp	592	0.02	x1
00770012	15-KW	22-Amp	592	0.02	x1
00770015	18-KW	26-Amp	592	0.02	x1

SPECIFICATION & MODELS

Power supply	230 single phase, 400V three phase
Flow requirements	Minimum flow 3-kW to 6-kW 1m ³ /h 9-kW to 18-kW 4m ³ /h
Maximum flow	-17m ³ /h
Heating Elements	Titanium, high MgO compaction.
Flow tubes	Titanium
Control thermostat	0 > 40 ^o C (1 ^o C differential)
Safety thermal cut out	55 ^o C (manual reset)
Flow switch	Gold tipped reed switch with Titanium fulcrum pin
Wiring	High temperature, silicone sheated, multi-strand copper conductors
Contactor	Schneider
Seals	High temperature special formula EPDM
Water connections	1½" BSP supplied with 1½" to 50mm ABS unions
Working pressure	4 bar maximum
Mounting	Floor or wall mounting
Standards compliance	European Electromagnetic Compatibility directive 89/336/EEC and 93/068/EEC
Harmonised Standards	EN 55014 - EN55104, EN 5501, EN 5502, CEI 801-4, CEI 801-2, CEI 801-3 The European Low Voltage Directive 72/23/EEC





ELECTRO EVOLUTION HEATER

Swimming Pool Heater - 3 kW to 24 kW

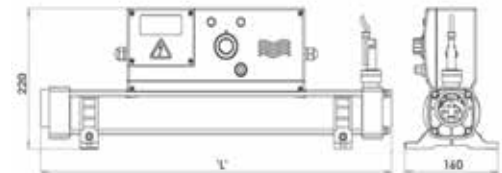
SPECIFICATION

Construction consists of a flow tube which is fitted with Inlet and outlet mouldings manufactured from specially formulated polymer alloy material. Universal ABS unions are provided to allow solvent weld connection to the inlet and outlet pipe work. The outlet moulding accommodates a reversible flow switch with a gold tipped reed, and Titanium pin. The heater is supported on two swivel feet; these can swivel to permit either wall or floor mounting. The heater control components are positioned on the front face of the casing. The water inlet and outlet fittings can facilitate connection to either metric or imperial standard pipe. The inlet moulding has been designed to ensure full immersion of the elements, greatly reducing the risks of air locking.

OPERATION

The desired pool temperature can be easily set on the ELECRO EVOLUTION heater using the panel-mounted thermostat dial. The single or three-phase power is supplied through a top quality Schneider contactor. Safety and equipment protection is provided by the highly reliable flow switch. Over-temperature protection is provided by the thermal cut out (manual reset).

- Fully equipped
- Easy installation
- Robust, durable construction
- Analogue control with 1°C Differential
- Incoloy 825 or Titanium heating elements
- 316 Stainless Steel or Titanium flow tube
- Ultra-reliable flow switch allows safe operation as low as 1,000 ltr/h
- May be floor or wall mounted using swivel foot
- Control thermostat and safety thermal cut out (manual reset)



SPECIFICATION & MODELS

Power supply	230V single phase, 400V three phase
Flow requirements :	Minimum flow 3-kW to 6-kW 1m ³ /h 9-kW to 18-kW 4m ³ /h
Maximum flow	-17m ³ /h
Heating Elements	Incoloy 825 or Titanium, high MgO compaction.
Flow tubes	BS 316 Stainless Steel or Titanium
Control thermostat	0 > 40° C(1°C differential)
Safety thermal cut out	55°C (manual reset)
Flow switch	Gold tipped reed switch with Titanium fulcrum pin
Wiring	High temperature, silicone sheathed, multi-strand copper conductors
Contactor	Schneider
Seals	Special formula high temperature polymer
Water connections	1½" BSP female thread supplied with 1½" to 50mm ABS unions
Working pressure	4 bar maximum
Mounting	Floor or wall mounting
Standards compliance	European Electromagnetic Compatibility directive 89/336/EEC and 93/068/EEC
Harmonised Standards	EN 55014 - EN55104, EN 5501, EN 5502, CEI 801-4, CEI 801-2, CEI 801-3 The European Low Voltage Directive 72/23/EEC The Harmonised Standard EN 60335-2-35

Stainless Steel Flow Tube With Incoloy 825 Code	Stainless Steel Flow Tube With Titanium Elements-Code	Titanium Flow Tube With Titanium Elements-Code	Power Output	Load	Length (mm)	m ³	U
230V 1 PHASE							
00700003	00710003	00720003	3-kw	13-Amp	462	0.02	x1
00700006	00710006	00720006	6-kw	27-Amp	462	0.02	x1
00700009	00710009	00720009	9-kw	40-Amp	462	0.02	x1
00700012	00710012	00720012	12-kw	53-Amp	462	0.02	x1
00700015	00710015	00720015	15-kw	66-Amp	462	0.02	x1
00700018	00710018	00720018	18-kw	79-Amp	462	0.02	x1
400V 3 PHASE							
00730003	00740003	00750003	6-kw	9-Amp	592	0.02	x1
00730006	00740006	00750006	9-kw	13-Amp	592	0.02	x1
00730009	00740009	00750009	12-kw	18-Amp	592	0.02	x1
00730012	00740012	00750012	15-kw	22-Amp	592	0.02	x1
00730015	00740015	00750015	18-kw	26-Amp	592	0.02	x1
00730018	00740018	00750018	24-kw	35-Amp	592	0.02	x1





TITAN OPTIMA HEATER

Swimming Pool Heater with Ultra Efficient Titanium Heating Elements 18-kW - 120 -kW (400 V - 3 ph)

CONSTRUCTION

The Titan Optima is manufactured from top quality components and materials. Construction consists of three flow tubes which are fitted to the uniquely designed manifold mouldings made from specially formulated polymer alloy material. Spiral wound titanium heating elements provide a 'Vortex' water flow, these are positioned equidistantly along each flow tube providing ultra efficient performance, the 'Low watts density' of these elements guarantees extended life and reliability. The Titan Optima plus uses pure titanium flow tubes for use with salt water pools. The outlet manifold accommodates a flow switch which provides a digital signal to the control board. The inlet manifold is equipped with a titanium temperature pocket fitted with a temperature sensor. The heater is supported by two G/F polyamide Chassis End Panel mouldings, these together with durable aluminium panels form an enclosure finished in tough epoxy powder coat paint. The enclosure design encourages induced cooling giving an extended switch gear life span.

The heater control panel mouldings, these together with durable aluminium panels form an enclosure finished in tough epoxy powder coat paint. The enclosure houses the cascade wired Schneider contactors (2 per element bank) timers and control board. The enclosure design encourages induced cooling giving an extended switch gear life span. The heater control panel is on the top of cabinet containing the indication and fault lights as well as the digital touch control screen. The unit can be floor or wall mounted, and comes supplied complete with a bracket for vertical wall mounting offering the simplest and tidiest of installations even in limited spaces, thus making it particularly suitable for parallel multi unit installations.

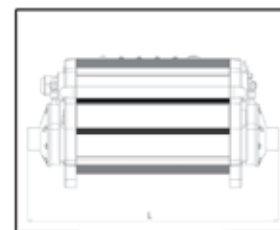
OPERATION

The Electro Titan Optima can be easily operated using the control panel touch screen. The inlet manifold has been designed to minimise flow imbalance between the flow tubes, greatly reducing the risks of air locking. Safety and equipment protection is provided by the highly reliable flow switch, over temperature protection is provided by the four safety thermal cut out's (auto-reset) and a safety thermal cut out (manual reset). The digital control board allows accurate control of pool water temperature thanks to its high precision. The blue digital characters on the touch screen are clearly legible, even in bright sunlight. To reduce voltage drop on start-up, the heater element banks are energised in a staged cascaded sequence, with a time delay between energising each bank.

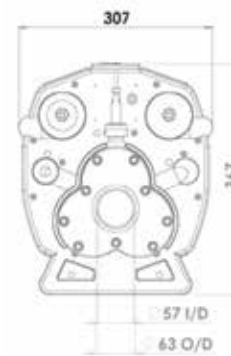
- Easy Installation, floor or vertical wall mount
- Super safe operation
- Robust, durable construction
- Digital water flow signal, no pump interlock required
- Low element Watts density reduces encrustation
- Titanium heating elements - zero corrosion guaranteed
- 316 stainless steel flow tube (Titan Optima)
- Titanium flow tube (Titan Optima plus)
- Dual cascade wired Schneider contactors on each element bank
- Digital times for staged energisation
- Easy programmable using touch screen
- Digital controls provide more accurate temperature control
- Epoxy powder coated aluminium cabinet

SPECIFICATION & MODELS

Heating Elements	Titanium, high Mgo compaction - 21.4 and 25.4 Watts/cm ² at 400V 3ph resp
Flow tubes	BS 316 stainless steel (Titan Optima) or pure titanium (Titan Optima plus)
Cladding panels	Moulded aluminium, epoxy powder coated
Control thermostat	0 > 40°C (1°C differential)
Flow switch	Gold tipped reed switch with Titanium fulcrum pin
Wiring	High temperature, silicone sheathed, multi-strand copper conductors
Contactors	Cascade wired dual Schneider contactors for each element bank
Seals	High temperature special formula EPDM
Water connections	63 mm spigot with adaptor for 2" NB
Working pressure	4 bar maximum
Mounting	Floor or wall mounting (wall bracket supplied)
Standards compliance	European Electromagnetic Compatibility directive 89/336/EEC and 93/068/EEC
Harmonised Standards	EN 55014 - EN55104, EN 5501, EN 5502, CEI 801-4, CEI 801-2, CEI 801-3 The European Low Voltage Directive 72/23/EEC The Harmonised Standard EN 60335-2-35



Titan Optima Code	Titan Optima Plus Code	Power Output	Load	Length (mm)	m ³	U
400V 3 PHASE						
Optima-18	Optima-118	18-kw	26-Amp	699	0.09	x1
Optima-24	Optima-124	24-kw	35-Amp	699	0.09	x1
Optima-30	Optima-130	30-kw	44-Amp	699	0.09	x1
Optima-36	Optima-136	36-kw	52-Amp	699	0.09	x1
Optima-45	Optima-145	45-kw	66-Amp	699	0.09	x1
Optima-54	Optima-154	54-kw	78-Amp	699	0.09	x1
Optima-60	Optima-160	60-kw	89-Amp	877	0.09	x1
Optima-72	Optima-172	72-kw	104-Amp	877	0.09	x1
Optima-96	Optima-196	96-kw	139-Amp	1042	0.09	x1
Optima-120	Optima-1120	120-kw	174-Amp	1042	0.11	x1



ELECTRO B-100

Swimming Pool Heater with Ultra Efficient Heating Elements 30kW- 72kW (400V-3ph)

CONSTRUCTION

The Electro B-100 is manufactured from top quality components and materials. Construction consists of three flow tubes which are fitted to uniquely designed manifold mouldings made from specially formulated polymer alloy material. Spiral wound heating elements provide a ‘Vortex’ water flow, these are positioned equidistantly along each flow tube providing ultra efficient performance, the ‘Low watts density’ of these elements guarantees extended life and reliability, these are available in Titanium or Incoloy 825. The outlet manifold accommodates a flow switch which provides a digital signal to the control board. The inlet manifold is equipped with a Titanium temperature pocket fitted with a temperature sensor. The heater is supported by two stainless steel brackets, these together with durable aluminium panels form an enclosure finished in tough epoxy powder coat paint. The enclosure houses the cascade wired Schneider contactors (2 per element bank) timers and control board. The heater control panel is on the front of the cabinet containing the indication and fault lights as well as the digital touch control screen. The unit can be floor or horizontal shelf mounted offering the simplest and tidiest of installation even in limited spaces.

OPERATION

The Electro B-100 can be easily operated using the control panel touch screen. The inlet manifold has been designed to minimise flow imbalance between the flow tubes, greatly reducing the risks of air locking. Safety and equipment protection is provided by the highly reliable flow switch, over temperature protection is provided by the four safety thermal cut out (auto-reset) and a safety thermal cut out (manual reset), The digital control board allows accurate control of pool water temperature thanks to its high precision. The blue digital characters on the touch screen are clearly legible, even in bright sunlight. To reduce voltage drop on start-up, the heater element banks are energised in a staged cascaded sequence, with a time delay between energising each bank.

- Easy Installation
- Super safe operation
- Robust, durable construction
- Digital water, flow signal, no pump interlock required
- Low element Watts density reduces encrustation
- Available with Titanium heating elements, zero corrosion
- Guaranteed 316 Stainless Steel flow tubes
- Dual cascade wired Schneider contactors on each element bank
- Digital timers for staged energisation
- Easy programming using touch screen
- Digital controls provide more accurate
- Temperature control
- Epoxy powder coated aluminium cabinet

SPECIFICATION & MODELS

Heating Elements	Titanium or Incoloy 825, high MgO compaction - 21.4 and 25.4 Watts/cm ² at 400V 3ph resp.
Flow tubes	BS 316 Stainless Steel
Cladding panels	Aluminium, epoxy powder coated
Contactors	Cascade wired dual Schneider contactors for each element bank
Thermostats	1 x 60°C safety thermal cut out (auto-reset) per flow tube against over-temperature 1 x 60°C safety thermal cut out (auto-reset) against enclosure over-temperature 1 x 55°C safety thermal cut out (manual-reset)
Flow switch	Gold tipped reed switch with titanium fulcrum pin
Wiring	High temperature, silicone sheathed, multi-strand copper conductors
Seals	High temperature special formula EPDM
Water connections	63-mm spigot with adaptor for 2" NB
Working pressure	4 bar maximum
Mounting	Floor or horizontal shelf mounting
Standards compliance	European Electromagnetic Compatibility directive 89/336/EEC and 93/068/EEC
Harmonised Standards	EN 55014 - EN55104, EN 5501, EN 5502, CEI 801-4, CEI 801-2, CEI 801-3 The European Low Voltage Directive 72/23/EEC The Harmonised Standard EN 60335-2-35

Stainless Steel Flow Tube With Titanium Element-Code	Stainless Steel Flow Tube With Incoloy 825 Code	Power Output	Load	Length (mm)	m ³	U
400V 3 PHASE						
B-10030	B-10130	30-kw	44-Amp	699	0.078	x1
B-10036	B-10136	36-kw	52-Amp	699	0.078	x1
B-10045	B-10145	45-kw	66-Amp	877	0.078	x1
B-10054	B-10154	54-kw	78-Amp	1042	0.078	x1
B-10060	B-10160	60-kw	87-Amp	877	0.078	x1
B-10072	B-10172	72-kw	104-Amp	1042	0.078	x1



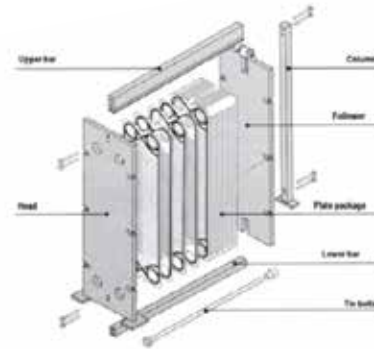


PROTEAM EUROPA - PLATE TYPE HEAT EXCHANGERS

PROTEAM EUROPA heat exchangers offer plate type heat exchangers, copper brazed, semi-welded, all welded plate heat exchangers and freshwater generators. With the big range of plate type heat exchangers PROTEAM EUROPA has got the optimal technical solution for any possible task, with connection sizes from $\varnothing 15\text{mm}$ - 500mm covering a liquid flow of 50L/hours - 2000 m³/hour.

PLATE DESIGN

The construction of the inlet part makes a perfect distribution of the liquids across the heating surface. The inlet part is increased and supplied with grooves preventing “dead spots” which may cause the growth of bacteria in the plate heat exchanger. The inlet with grooves secures a strong inlet part with a minimum of contact points. The inlet parts are constructed with a leakage drained zone fulfilling the AAA specifications. The heat transfer plates are designed with a gap between plates up to 11mm depending on the plate type. Because the pattern of the plate pressing is horizontal waves maintaining no “plate contact points” in the flow direction, the flow channels remain free of obstacles allowing the media/particles to flow freely.



EDGE REINFORCEMENT

In order to strengthen the gasket groove PROTEAM EUROPA “Flex Line” is supplied with deep step edged grooves giving a perfect hold of the gasket. This means a long durability for gaskets as well as for plates.

THE GASKETED PLATE HEAT EXCHANGER

The gasket is placed in the total protected gasket groove. This construction secures the elasticity of the gasket even after long time of assembling. The new generation of PROTEAM EUROPA plate heat exchangers is developed with the glueless “Lock” gasket. The “Lock” gasket is fixed by strong rubber button which contrary to most glueless gaskets of today reality fix the gasket in the groove.

Gasketed plate heat exchangers are applicable in many areas for heating/cooling i.e. in the food industry, the chemical area, by heat recovery, in HVAC units and many other areas.

- Pressure rating up to 25 bar
- Temperature up to 200°C



PLATE TYPE HEAT EXCHANGERS

FEATURES

- High Operation safety
- Exact energy-transfer
- Low running costs
- Energy saving
- Environment-friendly

Note Please ask for selection of Heat Exchanger for your pool. Selection chart/datasheet on request.





HEAT AND CHILL PUMP

PROTEAM Europa Heat and Chill pump can be used for heating or cooling swimming pool, spa or some other open water System. The heat and chill pump manufactured very highest international standard quality with advanced technologies to maximize the performance and minimize the consumption. In consideration of this, PROTEAM heat pumps have always been specifically designed to have higher COP at lower temperature when maximum energy is needed. All PROTEAM heat pumps will be available with environmentally friendly refrigerant.

HOW DO HEAT PUMP WORKS

PROTEAM Europa Heat pump and chill pump principle Heat pumps function like a reversed air conditioning cooling system. The heat pump fan draws ambient air through the outer evaporator air coil that acts as a heat collector. The air coil has a liquid refrigerant which absorbs available heat in the passing air transforming it into a gas which is compressed by a compressor. When the gas is compressed it intensifies and concentrates the heat. This intense hot gas is then pumped into the heat exchange condenser where the actual heat exchanger takes place. As the pool water passes through the heat exchanger, the hot gas gives up its heat to the cooler pool water. Uses freely available air energy 4-5 times more effective than conventional electrical heaters. If heat energy is converted to KW you get 4-5 kW of heating/cooling output. For every KW of power consumed, you get at least 4-5KW of free power.

HIGHLY EFFICIENCY

Adopt heat pump for heating and the energy comes from ambient air. So its COP can reach 4.0 - 5.0. 70% can be saved compared with normal electrical heater.

SAFETY

Water and electricity are completely separate. ECO friendly gas, no fire, no electricity leakage, safer than fuel burner or electrical heater.

ENVIRONMENTALLY FRIENDLY

Adopt R407-C, R410-A, R134-A, R22 as refrigerant according to the requirements of EU Montreal protocol.

LONG LIFE RUNNING

Titanium heat exchanger in PVC shell makes it super strong and resistant against erosion caused by chlorine and salt. SS316 casing for titanium heat exchanger is an option.

COMPRESSOR

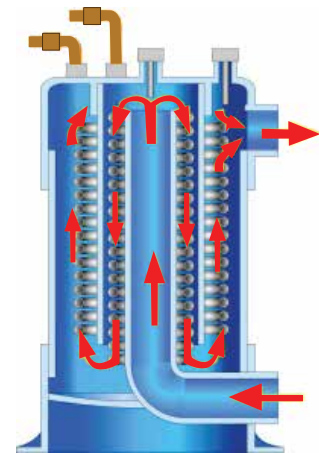
We use the reliable COPELAND scroll compressor. The simple design is with very few moving parts that enable it to operate at lower sound and vibration levels than reciprocating compressors. Test has shown that scroll compressors are up to three times quieter than other models. Millions of air conditioner around the world using Copeland scroll compressors is testimony to its quality and efficiency.

WATER HEAT EXCHANGER

This is made of double spiraled titanium tubes encased in PVC for additional protection against corrosive pool water. Titanium heat exchangers are superior to stainless steel and make the heat pump more efficiency and cost effective. The double spiraling of the heat exchanger increase the surface area that comes in contact with the pool water and also drastically reduces scaling.

EXTERNAL HEAT EXCHANGER

The tubes are made of copper and the fins in aluminium. The extra-large evaporator coils are designed to collect more heat from the outside air to ensure performance in even the most adverse conditions.





EXTERNAL HEAT EXCHANGER

The tubes are made of copper and the fins in aluminium. The extra-large evaporator coils are designed to collect more heat from the outside air to ensure performance in even the most adverse conditions.

FEATURES

Over sized air coil-higher COP and wider. Electrostatic coated air coil-corrosion protection. Titanium class A1 double coil shell-tube heat exchanger-higher COP. Electrical expansion valve-higher COP and wider working temperature range. Microprocessor controlled auto-charge defrost-high COP. Water proof display and keyboard for operation. Dual fan speed-low noise. Stainless steel cabinet on request. Compressor heater wider working temperature range. Quick connectors for easy and fast installation.



FAN

Large axial fans, with precision engineered blades are used to draw maximum ambient air and pass it on to the evaporator coils.

REFRIGERANT

We use the ecologically approved refrigerant R407-C, R410-A, R134-A, R22 depending on the clients requirement.

THERMOSTAT

PROTEAM Europa heat and chill pumps are fitted with an electric thermostat with digital display for temperature and other functions.

CASTING

Constructed in zinc-plated aluminium with PVC power coating to resist extreme outdoor weather conditions. Stainless steel is an option





TECHNICAL SPECIFICATION

Specification		Model				
		00500188	00500133	00500130	00500117	00500170
Heating Capacity	Kw	8.8	13	13	17	17
	BTU/hr	30000	44000	44000	58000	58000
Heating Power Input	kw	1.9	2.65	2.65	3.7	3.7
Cooling Capacity	kw	5.8	8.8	8.8	12	12
	BTU/hr	19720	30000	30000	41000	41000
Cooling Power Input	kw	2.1	2.85	2.85	3.9	3.9
Running Current	A	8.6/9.6	13.6/14.3	13.6/14.3	18.0/19.1	18.0/19.1
COP		4.9	4.9	4.9	4.8	4.8
Power Supply	V/PH/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Compressor		1	1	1	1	1
Compressor Model		Rotary	Rotary	Rotary	Scroll	Scroll
Fan Quantity		1	1	1	1	1
Fan Input Power	W	150	150	200	150	200
Fan Rotate Speed	RPM	850	850	830	850	830
Fan Direction		Horizontal	Horizontal	Horizontal	Horizontal	Vertical
Noise	dB(A)	56	58	58	58	58
Water Connection	mm	50	50	50	50	50
Water Flow Volume	m3/hr	3	6	6	7.5	7.5
Water Pressure Drop (Max)	kPa	8	8	8	10	10
Unit Net Dimension (L/W/H)	mm	1010*420*650	1120*470*850	660*660*860	1120*700*920	660*660*860
Unit Net Weight	kg	77	90	86	100	100

Specification		Model				
		00500121	00500125	00500250	00500350	00500450
Heating Capacity	Kw	21	25	25	35	45
	BTU/hr	72000	86000	86000	120000	150000
Heating Power Input	kw	4.6	5	5	7.5	9.5
Cooling Capacity	kw	14.5	17.4	17.4	25	34
	BTU/hr	49500	59500	59500	86000	116000
Cooling Power Input	kw	5.2	5.8	5.8	8.4	9
Running Current	A	7.1/7.35	8.91/10.33	8.91/10.33	14.5/13.2	16.4/15.7
COP		4.8	4.9	4.9	4.8	4.9
Power Supply	V/PH/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Compressor		1	1	1	2	2
Compressor Model		Scroll	Scroll	Scroll	Scroll	Scroll
Fan Quantity		1	1	1	2	2
Fan Input Power	W	200	200	200	200*2	200*2
Fan Rotate Speed	RPM	830	830	830	830	830
Fan Direction		Vertical	Horizontal	Vertical	Vertical	Vertical
Noise	dB(A)	59	59	59	60	61
Water Connection	mm	50	50	50	50	63
Water Flow	m3/hr	8	9	9	12	14
Water Pressure Drop (Max)	kPa	12	12	12	15	15
Unit Net Dimension (L/W/H)	mm	660*660*880	1450*750*920	660*660*880	1448*725*976	1450*730*1080
Unit Net Weight	kg	110	110	125	200	225



Data Sheet is based on capacities

Cooling - Ambient air temp: 42° / 36° C, Water Temp: 33°C

Heating - Ambient air temp: 23° / 18° C, Water Temp: 26°C

*Above data is subject to modification without notice for technical upgrade

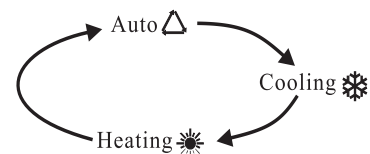


SWIMMING POOL HEAT AND CHILL PUMPS

Specification		Model				
		00500550	00500900	00500105	00500160	00500210
Heating Capacity	Kw	55	90	105	160	210
	BTU/hr	187000	306000	357000	550000	714000
Heating Power Input	kw	11	17.5	22.5	34.2	46.3
Cooling Capacity	kw	42	70	88	120	150
	BTU/hr	143000	238000	200000	410000	510000
Cooling Power Input	kw	10.3	17.8	24.7	41.6	56.2
Running Current	A	19.2/18	31.2/31.7	40.1/44.0	61.0/74.2	81.8/99.1
COP		4.9	4.7	4.5	4.7	4.5
Power Supply	V/PH/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Compressor		2	3	4	4	4
Compressor Model		Scroll	Scroll	Scroll	Scroll	Scroll
Fan Quality		2	3	3	3	4
Fan Input Power	W	200*2	200*3	200*3	550*3	550*4
Fan Rotate Speed	RPM	830	830	830	870	920
Fan Direction		Vertical	Vertical	Vertical	Vertical	Vertical
Noise	dB(A)	61	62	62	65	67
Water Connection	mm	63	63	110	110	110
Water Flow	m3/hr	18	30	32	40	50
Water Pressure Drop (Max)	kPa	15	16	16	24	24
Unit Net Dimension (L/W/H)	mm	1450*730*1080	2170*830*1440	2170*1065*1930	2170*1065*2100	2850*1108*2220
Unit Net Weight	kg	265	370	695	950	1350

COMMERCIAL HEAT AND CHILL PUMPS

Specification		Model				
		00500120	00500300	00500400	00500500	00500600
Heating capacity	KW	120	250	300	350	450
Heating power input	KW	28.3	49	58	69	88
Cooling capacity	KW	95	210	250	300	390
Cooling power input	KW	28.5	44	55	68	93
Running current	A	48.8/48.7	88/98	104.3/110	128.1/130	184.9/175
COP		4.6	5.1	5.2	5.1	5.1
Power supply	V/PH/Hz	50/3/380	50/3/380	50/3/380	50/3/380	50/3/380
Compressor model		Scroll	Scroll	Scroll	Scroll	Scroll
Fan direction		Vertical	Vertical	Vertical	Vertical	Vertical
Water connection	mm	110	110	110	110	110
Water flow	m3/hr	45	110	130	150	175



Data Sheet is based on capacities

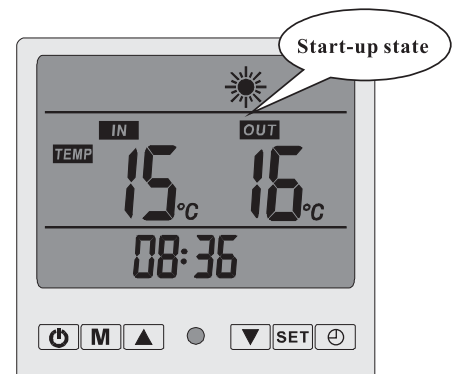
Cooling - Ambient air temp 42° / 36° C, Water Temp: 33°C

Heating - Ambient air temp 23° / 18° C, Water Temp: 26°C

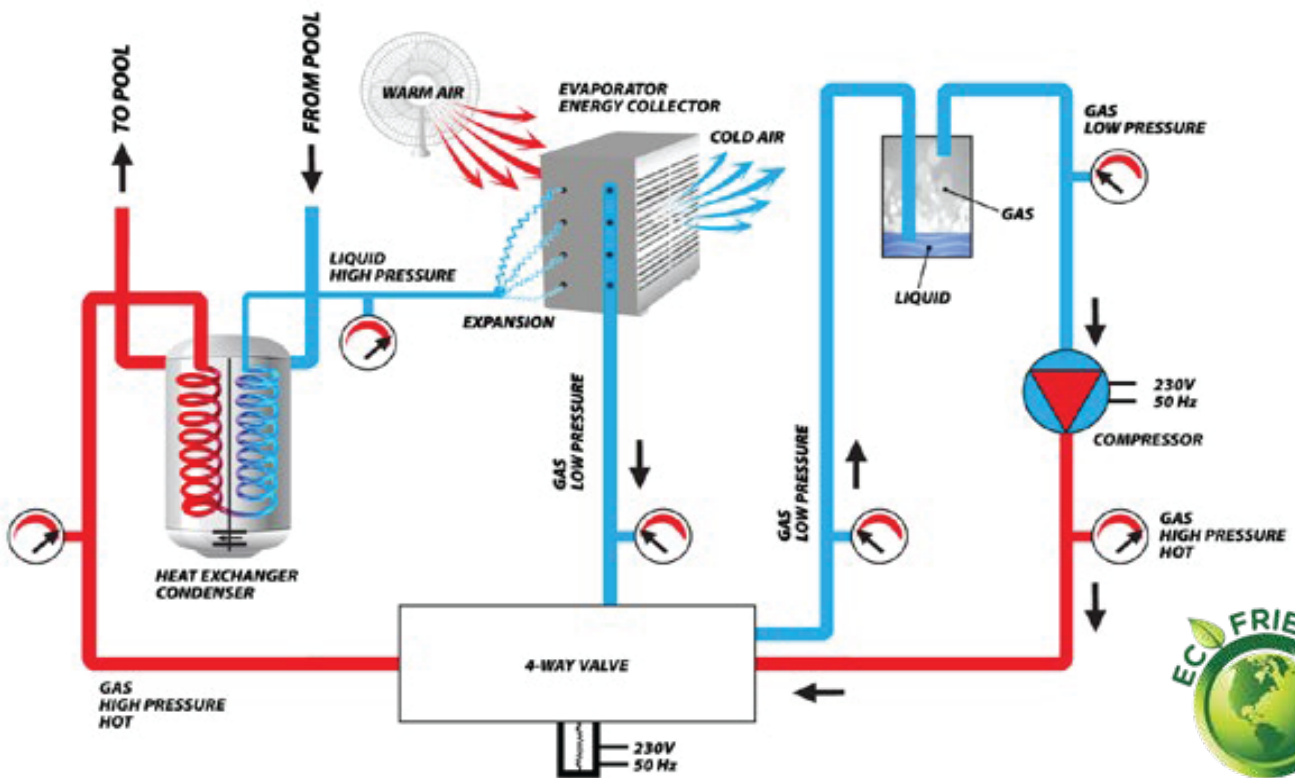
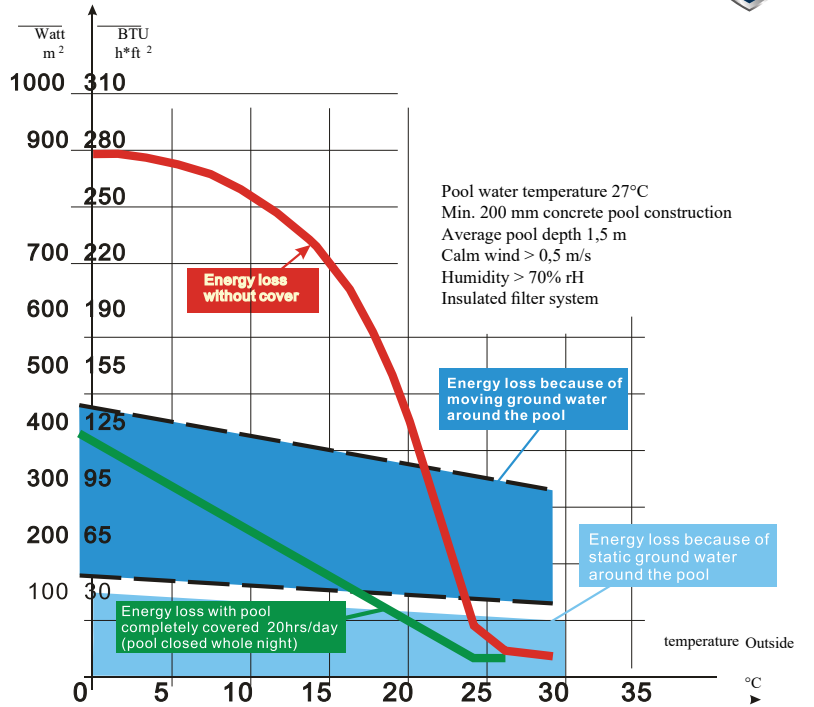
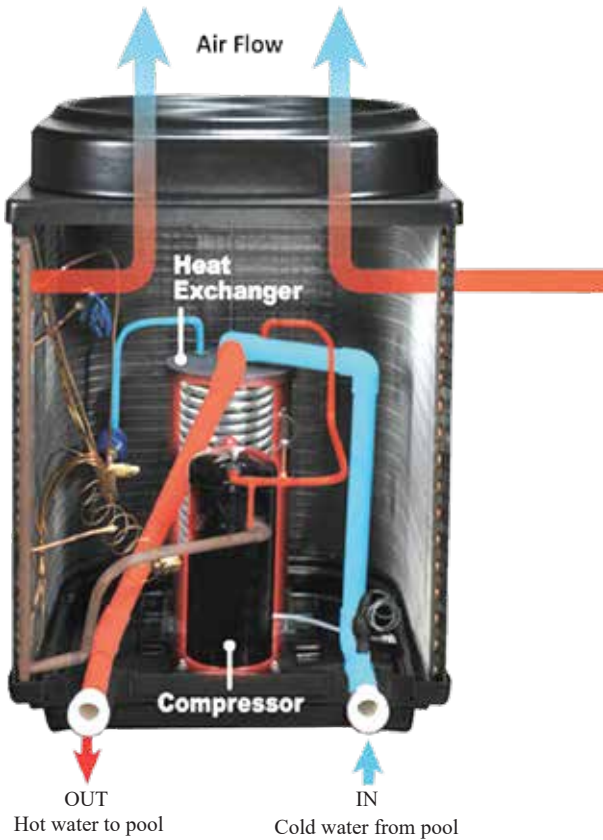


PROTEAM HEAT PUMP PROTECTION FEATURES

- Refrigerant low pressure protection
- Gas compressing side high temperature protection
- Compressor over current protection
- Refrigerant high pressure protection
- Gas compressing side temperature sensor protection



POOL HEATING Heat & Chill Pump



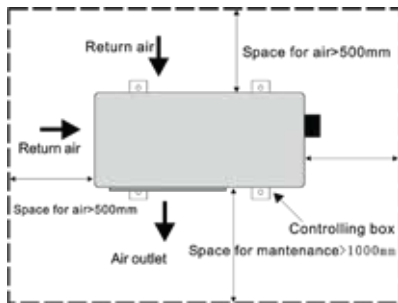


INSTALLATION

Location for installation of units is outdoor with free air movement for higher efficiency. Choose good place with ventilation. Keep proper space around the unit for installation and maintenance - see illustration. There must be drainage channel around the unit for condensing water. Parallel connection must be carried out if several units installed together.

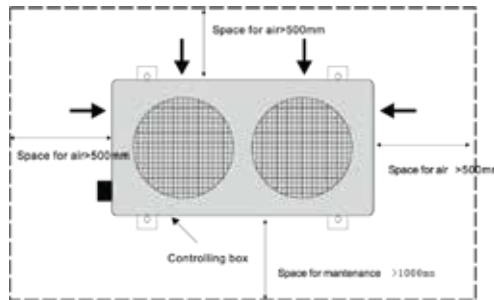
INSTALLATION SPACE FOR SIDE DISCHARGE UNITS

Model: 00500177, 00500125



INSTALLATION SPACE FOR SIDE DISCHARGE UNITS

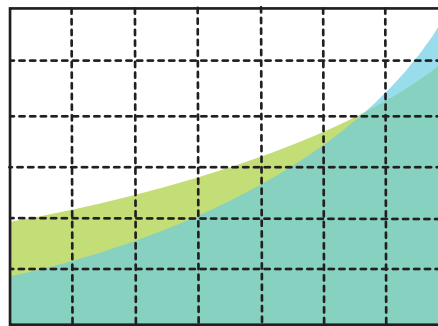
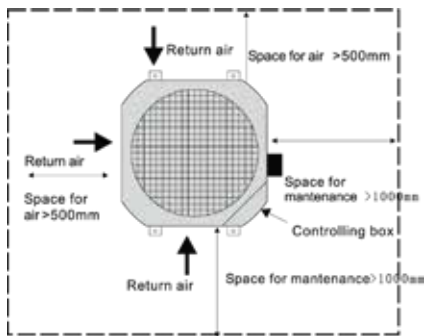
Model: 00500350, 00500450, 00500900



INSTALLATION SPACE FOR SIDE DISCHARGE UNITS

Model: 00500133, 00500170, 00500121, 00500250

There must be no obstacle on the top of these units as the air direction is vertical.



■ Noise Level
■ Power Input





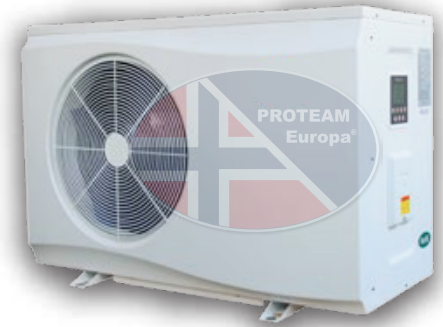
DC INVERTER HEAT AND CHILL PUMPS

PROTEAM Europa we are very aware of the need to balance the advantage associated with confort and enjoyment of your pool, with the potential impact that our product can have on the environment. We have recently also developed a complete range of variable -speed inverter units using the latest technological advances in the sector , to maximize performance and minimize consumption. In consideration of this, proteam heat pumps have always been specifically designed to have higher COPs at lower temperature when maximum energy is needed. From 2019, all proteam heat pumps will be available with R32 gas, which is a more environmentally - friendly option compared to the traditional R410a gas (which will continue to be available).

HOW DO HEAT PUMP WORKS

Heat pumps absorb and collect the energy available in the outside air , and transfer it to the pool water. The heat pump is connected to the pool filtration system , meaning that water is taken from the pool and circulated through the heat pump, where it is heated , before being returned to the pool. The unit itself has a fan that draws in outside air and directs it over the surface of the evaporator (which effectively an energy collector). The liquid refrigerant becomes a gas.

The gas then passes through a compressor where it is compressed to form a very hot gas , Which then passes through the heat exchanger (condenser). This is where the transfer of heat take place , as the hot gas releases heat to the cooler swimming pool water circulating through the coil . The pool water gradually becomes warmer and the hot gas cools back down to its liquid state as it flows through the condenser coil. It then passes through an expansion valve , the whole process is repeated.



FEATURES

- Full DC twin - rotary inverter compressor and brushless DC inverter motor with infinity variable speed.
- Soft -starter (wide start -up voltage range)
- Intelligent controller
- Wifi capability with dedicated user friendly app
- 3 operating modes (silent /smart / boost)
- Heating and cooling function higher COP
- Higher COP
- Lower noise (inverter technology and insulated compressor)
- Smart defrost
- Very low working temperature up to -15°C
- Environmentally friendly R32 or R410 gas.



THREE OPERATION MODE FOR MAXIMUM EFFICIENCY

BOOST MODE

20% - 100% capacity output
Fast heating
Late spring/early autumn In cooler climate

SMART MODE

20% - 80% capacity output
As standard
Spring to autumn in warmer climate



SILENT MODE

20%- 50% capacity output
Ideal for night use
Middle of summer in hot climate



SOFT - STARTED AND STABLE OPERATION

Proteam's full DC inverter technology ensures more stable running than traditional ON/OFF units allowing to maintain your pool water temperature at a more optimal level with reduced running cost. An incorporated soft starter ensures that your house's electricity supply is not affected when the unit startups, as the current gradually increases after the unit is switched on and starts to operate. As a result, proteam inverter units are also able to operate in conditions where the main power supply is unstable (within an extended range of 180V-260V).

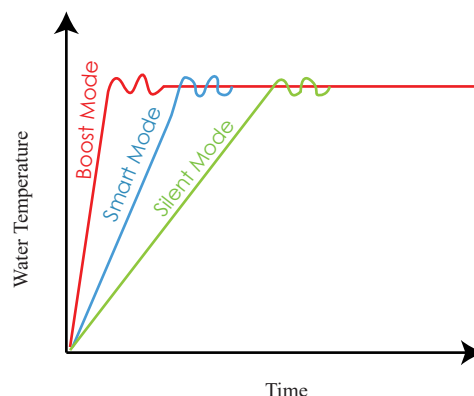
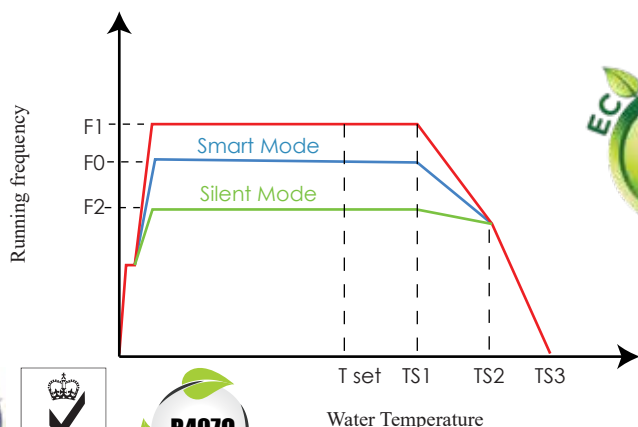




DC INVERTER HEAT AND CHILL PUMPS SPECIFICATIONS

Model	00600010	00600011	00600012	00600013	00600014
Advised pool volume (m3) with insulating / isothermal cover	10~20	15~30	20~40	25~50	30~60
Performance					
Heating air 26°C / water 26°C humidity 80% kw	1.6~5.3	1.6~7.2	1.9~9.2	2.7~10.9	3.4~14.3
Power input (kw)	0.13~0.88	0.13~1.19	0.13~1.28	0.18~1.74	0.23~2.32
COP	6.25~14.5	6.22~14.55	6.24~14.71	6.27~14.8	6.15~14.62
Heating air 15°C / water 26°C humidity 70% kw	1.1~3.8	1.3~5.1	1.6~5.95	2.18~8.13	2.86~10.65
Power input (kw)	0.14~0.75	0.17~1.06	0.21~1.2	0.28~1.59	0.38~2.17
COP	5.1~7.9	4.8~7.8	5~7.7	4.9~7.8	4.9~7.6
Cooling air 35°C / water 28°C humidity 80% kw	1.5~2.8	1.7~3.6	1.8~4.6	2.4~6.0	3.2~7.87
Power input (kw)	0.2~0.62	0.22~0.8	0.28~1.2	0.33~1.39	0.43~1.78
EER	4.51~7.55	4.48~7.53	4.47~7.46	4.32~7.34	4.41~7.42
Sound pressure level at 1m db(A)	38-47	39-48	39-48	40-49	43-52
Sound pressure level at 4m db(A)	27-35	29-37	29-37	30-38	31-38
Sound pressure level at 10m db(A)	19-27	20-28	20-28	21-28	21-29
Power supply	230V/50Hz/1 phase				
Operating air temperature °c	- 15°C ~ 43°C				
Max current A	5,35	7,24	6,53	8,4	9,6
Recommended water flow m3/h	2~3	2~3	3~5	4~6	5~7
Components					
Refrigerant	R32 or R410a				
Compressor type	DC twin rotary inverter				
Heat exchanger	Twisted coil ,titanium				
Fan direction	Horizontal				
Casing type	ABS				
Installation					
Inlet/outlet unions G1-1/2"					
Unit dimensions(mm) L*W*H	860*330*668			986*356*668	
Shipping dimensions L*W*H	950*410*800			1080*435*800	
Net /Gross weight kg	35/42	38/45	40/48	44/54	46/56

*Above data is subject to modification without notice for technical upgrade



POOL HEATING Inverter Heat & Chill Pump



DC INVERTER HEAT AND CHILL PUMPS SPECIFICATIONS

Model	00600015	00600016	00600017	00600018	00600019
Advised pool volume (m3) with insulating / isothermal cover	35~70	40~80	65~110	70~120	80~150
Performance					
Heating air 15°C/ water 26°C humidity 80% kw	4.3~17.4	4.8~21.2	6.2~25.1	6.6~29	7.7~31.7
Power input (kw)	0.29~2.85	0.33~3.38	0.4~3.8	0.46~4.42	0.54~5.21
COP	6.0~14.5	6.36~14.55	6.2~14.52	6.1~14.54	6.11~14.6
Heating air 15°C/ water 26°C humidity 80% kw	3.49~13	3.76~15.7	5.15~18.52	5.43~21.28	6.34~23.68
Power input (kw)	0.47~2.64	0.48~2.75	0.61~3.6	0.73~4.1	0.87~4.8
COP	4.85~7.44	5.1~7.52	4.91~7.53	4.95~7.51	4.9~7.6
Cooling air 35°C/ water 28°C humidity 80% kw	3.9~9.6	4.3~11.5	5.8~13.9	6.2~16	7.2~17.5
Power input (kw)	0.51~2.3	0.57~2.62	0.73~3.1	0.82~3.48	0.97~4.17
EER	4.24~7.4	4.38~7.48	4.15~7.22	4.29~7.54	4.21~7.44
Sound pressure level at 1m db(A)	45-53	45-54	48-56	49-56	50-57
Sound pressure level at 4m db(A)	33-41	33-41	36-42	37-45	38-47
Sound pressure level at 10m db(A)	23-32	24-32	25-34	27-37	27-38
Power supply	V/PH/Hz				
Operating air temperature °C	- 15°C ~ 43°C				
Max current A	13,77	14,3	18,36	21,35	25,2
Recommended water flow m3/H	6~8	7~9	8~11	9~12	12~15
Components					
Refrigerant	R32 or R410a				
Compressor type	DC twin rotary inverter				
Heat exchanger	Twisted coil ,titanium				
Fan direction	Horizontal				
Casing type	ABS				
Installation					
Inlet/outlet unions G1-1/2"					
Unit dimensions(mm) L*W*H	1076*426*720			1176*451*822	
Shipping dimensions L*W*H	1161*490*855			1261*515*957	
Net /Gross weight kg	56/66	67/80	72/85	98/116	



*Above data is subject to modification without notice for technical upgrade



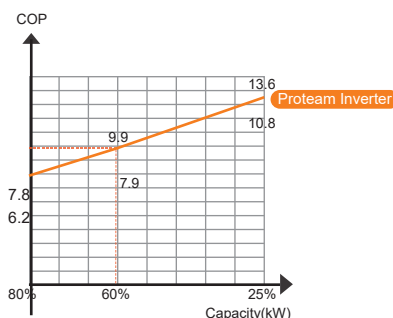
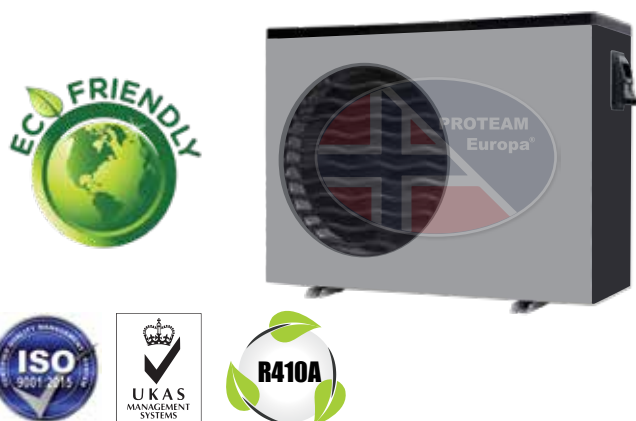


INVERTER VARIABLE SPEED POOL HEAT PUMPS

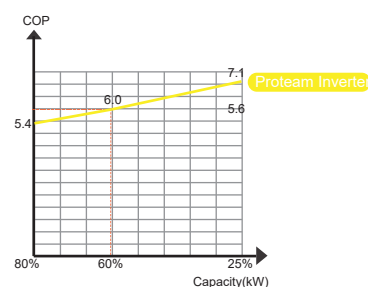
Proteam Europa full inverter technology on commercial pool heat pump. it allows the heat pump to reach high COP of 16 air 27°C/Water 26°C/Humid.80%. With variable running speed basing on actual heating or cooling requirements, the series helps to save big running cost for commercial occasions including aqua park, hotels,gyms and so on.

Code	00600020	00600021	00600022	00600023	00600024	00600025
Advised pool volume (m3)	20-45	25-55	35-70	45-90	60-115	85-170
Operating Air temperature(°C)	15 - 43					
Performance condition Air 27°C/water 26°C/Humidity 80%						
Heating capacity(KW)	2-8	2-11	3-16	4-19	5-23	6-27
Heating Capacity(BTU)	7311-30550	9695-40750	12820-57750	15645-66255	19375-82275	22775-96200
Consumed power (kw)	0.17-1.7	0.22-2.13	0.4-3.12	0.38-3.95	0.47-4.7	0.55-5.58
COP	13.45-5.64	13.58-5.67	12.58-5.64	12.44-4.96	12.40-5.05	12.42-5.09
Performance condition Air 15°C/water 26°C/Humidity 70%						
Heating capacity(KW)	1.76-7.5	2.26-9.8	2.93-12.5	3.85-15.5	4.69-20	5.47-23.5
Heating Capacity(BTU)	5951-25161	7651-32982	9930-42162	13057-52361	15915-67665	18565-779222
Consumed power (kw)	0.26-1.7	0.33-2.09	0.45-2.87	0.7-3.82	0.73-4.75	0.84-5.50
COP	7-4.65	7.04-4.67	6.65-4.35	6.5-4.05	6.6-4.4	6.59-4.25
Performance condition Air 10°C/water 26°C/Humidity 64%						
Heating capacity(KW)	1.45-6.3	1.89-9	2.6-10.8	3.39-14.5	4.3-17.9	5-20.9
Heating Capacity(BTU)	4830-20745	6395-27250	8550-36390	11495-48965	14285-60525	16665-70722
Consumed power (kw)	0.26-1.6	0.34-1.96	0.46-2.68	0.63-3.64	0.76-4.5	0.88-5.2
COP	5.69-4.08	5.8-4.2	5.57-4.06	5.46-3.99	5.7-4.04	5.64-4.09
Power supply	220-240V /1PH			380-400V-/3PH		
Casing type	ABS	ABS	ABS	ABS	ABS	ABS
Fan Quantity	1	1	1	1	2	2
Fan speed	400-800	400-800	500-750	500-900	400-800	400-900
Sound pressure 1m dB(A)	40-50	42-52	44-53	45-56	46-57	48-58
Silence mode 1m dB(A)	40	42	44	45	46	48
Sound pressure 10m dB(A)	20-30	22-32	24-33	25-36	26-37	28-38
Silence pressure 10m dB(A)	20	22	24	25	26	28
Water Connection (mm)	50	50	50	50	50	50
Water flow volume(m3/h)	3.5	4.7	5.4	6.7	8.6	10
Water pressure Drop (max)Kpa	4	4.5	5	6	11	15
Net dimension(L/W/H)(mm)	955*405*625		1115*485*875		1170*475*1280	
Refrigerant gas	R410A/R32				R32	

*Above data is subject to modification without notice for technical upgrade



Performance condition air 27°C
Water 26°C Humidity 80°C



Performance condition air 15°C
Water 26°C Humidity 70°C



INVERTER VARIABLE SPEED POOL HEAT PUMPS

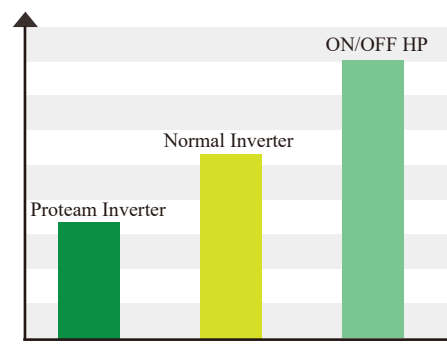
Proteam Europa full inverter technology on commercial pool heat pump. it allows the heat pump to reach high COP of 16 air 27°C/Water 26°C/Humid.80%. With variable running speed basing on actual heating or cooling requirements, the series helps to save big running cost for commercial occasions including aqua park, hotels, gyms and so on.

Code	00600026	00600027	00600028	00600150	00600300	00600500
Advised pool volume (m3)	45-90	60-115	85-170	170-330	340-700	510-980
Operating Air temperature(°C)	-15 - 43					
Performance condition Air 27°C/water 26°C/Humidity 80%						
Heating capacity(KW)	4-18	5-23	6-27	7- 65	14 -133	25-195
Heating Capacity(BTU)	15635-66250	19375-82275	22775-96200	25595-221790	49479-450405	75069-648310
Consumed power (kw)	0.38-3.95	0.47-4.9	0.55-5.58	0.48-12	0.95-24	1.40-33
COP	12.44-4.96	12.40-5.05	12.42-5.09	17-5	15.5-5.5	15.7-5.9
Performance condition Air 15°C/water 26°C/Humidity 70%						
Heating capacity(KW)	3.85-15.5	4.69-20	5.47-24	11.7-50	23-100	34-137
Heating Capacity(BTU)	13057-52365	15915-67665	18565-79222	39585-163785	781379-334390	113284-458935
Consumed power (kw)	0.7-3.85	0.73-4.75	0.84-5.50	1.7-11	3.04-22.54	4.7-31
COP	6.5-4.05	6.6-4.4	6.59-4.25	7.5-4.5	7.6-4.7	7.3-4.5
Performance condition Air 10°C/water 26°C/Humidity 64%						
Heating capacity(KW)	3.39-14.5	4.3-17.9	5-20.5	9.6-42	21,85	27-117
Heating Capacity(BTU)	11495-48962	14281-60522	16661-70722	32416 -136487	68245-280478	88756 -392398
Consumed power (kw)	0.63-3.64	0.76-4.5	0.88-5.2	1.79-10.3	3.55-20.8	5.11-28.79
COP	5.46-3.99	5.7-4.06	5.64-4.09	5.3-3.9	5.6-4.0	5.1-4.0
Power supply 380-400V-/3PH						
Sound pressure10m dB(A)	25-36	26-37	28-38	49-55	51-58	59-56
Water Connection (mm)	50	50	50	63	110	110
Water flow volume(m3/h)	6.7	8.5	10	23	45	67
Water pressure Drop (max)Kpa	6	11	15	18	21	24
Net dimension(L/W/H)(mm)	1115*485*875	1170*475*1280	1170*475*1280	1505*752*1403	2108*2129*2351	2108*2129*2351
Refrigerant gas	R410A/R32					

*Above data is subject to modification without notice for technical upgrade



Power Consumption



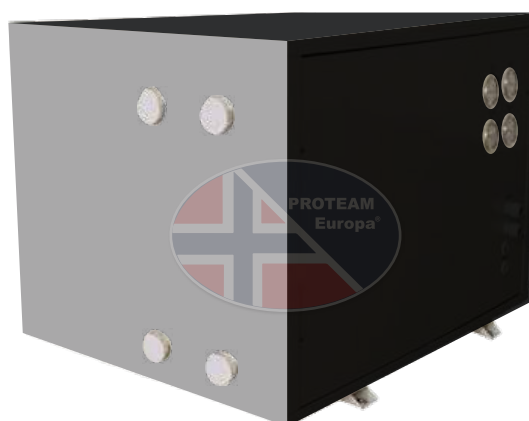


HEAT PUMP SPECIFICATION WATER TO WATER SERIES - INDOOR INSTALLATION

Specification		PRHP050	PRHP060	PRHP070	PRHP0850	PRHP2000
Refrigerant		R410a	R410a	R410a	R410A	R410A
Heating Capacity	kw	15.5	17.5	20.6	25.1	35.1
Power Input	w	3120	3680	4285	5190	7280
C.O.P		4.97	4.76	4.81	4.84	4.82
Power supply	V/Ph/Hz	230/1/50	230/1/50	380/3/50	380/3/50	380/3/50
Amp (heating)	Amp	14.5	17.4	8.5	9.8	14
Circuit breaker	Amp	30	30	16	30	30
Compressor	Type	Scroll	Scroll	Scroll	Scroll	Scroll
Heat Exchanger	P/T	Titanium	Titanium	Titanium	Titanium	Titanium
Noise	db(A)	≤54	≤54	≤58	≤60	≤62
Pressure Drop	mpa	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4
Water flow	m3/h	2~5	3~6	4~7	5~8	6~12
Water connection	inch/cm	2.0/5.0	2.0/5.0	2.0/5.0	2.0/5.0	2.0/5.0
Weight	kg	88	94	118	146	166
Dimension	mm	950*400*620	950*400*620	950*400*620	1060*440*760	1060*440*760

Specification		PRHP1700	PRHP2500	PRHP3300	PRHP5000	PRHP6000
Refrigerant		R410a	R410a	R410a	R410a	R410a
Heating Capacity	kw	49.9	75.2	90.7	151.2	175.8
Power Input	kw	10300	15600	18600	31100	35900
C.O.P		4.84	4.82	4.88	4.86	4.90
Power supply	V/Ph/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Amp (heating)	Amp	20.1	30.3	36.5	60.3	69.6
Circuit breaker	Amp	30	50	75	100	100
Compressor	Type	Scroll	Scroll	Scroll	Scroll	Scroll
Heat Exchanger	Type	Titanium	Titanium	Titanium	Titanium	Titanium
Noise	db(A)	≤64	≤66	≤70	≤75	≤75
Pressure Drop	m3/h	6 ~ 10	6~ 12	8~16	15~30	18~36
Water flow	mpa	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4
Water connection	inch/cm	2.0/5.01	2.5/6.35	2.0/5.01	4/10.16	4/10.16
Weight	kg	192	385	780	1250	1480
Dimension	cm	1250*560*1080	1250*560*1080	1350*600*1080	1600*660*1080	1600*660*1080

*Above data is subject to modification without notice for technical upgrade



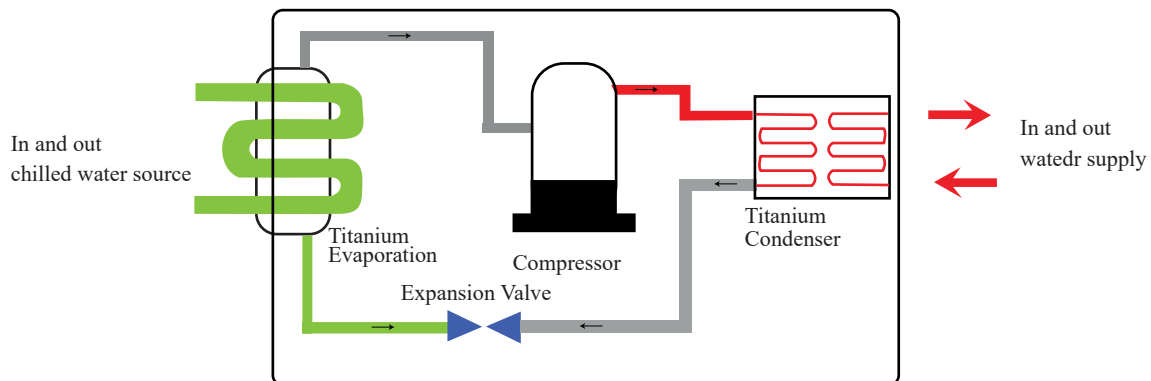


HEAT PUMP SPECIFICATION WATER TO WATER SERIES - INDOOR INSTALLATION

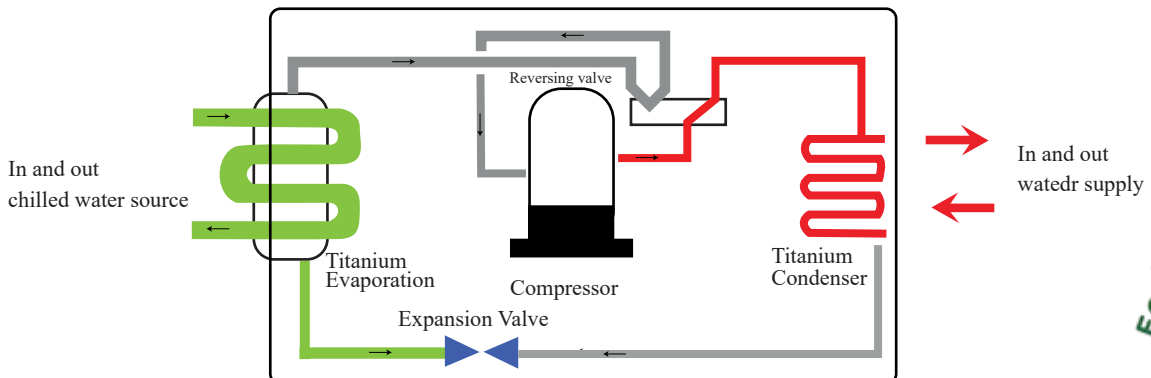
Specification		PRHP1300	PRHP1375	PRHP1465	PRHP1600	PRHP1850
Refrigerant		R410a	R410a	R410a	R410a	R410a
Heating Capacity	kw	299.3	375.5	465.2	790.1	850.6
Power Input	kw	61.3	76.8	95.1	161.2	166.6
C.O.P		4882.54	4889.32	4891.69	4901.36	5105.64
Power supply	V/Ph/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Amp (heating)	Amp	119.1	148.9	184.4	313.2	322.9
Circuit breaker	Amp	170	214	265	450	465
Compressor	Type	Scroll	Scroll	Scroll	Scroll	Scroll
Heat Exchanger	Type	Titanium	Titanium	Titanium	Titanium	Titanium
Noise	db(A)	≤80	≤85	≤88	≤92	≤95
Pressure Drop	m3/h	31~62	39~77	48~95	82~162	90~178
Water flow	mpa	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4
Water connection	inch/cm	4/10.16	4/10.16	4/10.16	4/10.16	4/10.16

*Above data is subject to modification without notice for technical upgrade

PROTEAM WATER TO WATER HEAT PUMP REFRIGERANT DIAGRAM



PROTEAM WATER TO WATER HEAT PUMP HEATING DIAGRAM





RESIDENTIAL HEAT PUMP WITH WATER TANK

Proteam Europa all in one HOT MAGIC heat pump water heater is a very smart design to provide domestic hot water for the house. With all in one type and water tank inside, it is very easy for installation and convenient for users. The Heat Pumps water heater are widely used in family and some small public places like hotels, restaurant, aqua parks, gyms, etc. all over the world.

VARIABLE SPEED FAN

The working units can adjust the fan speed at any time to reduce the input power, meanwhile, reduce noise to achieve energy saving and silent running.

EXPANSION VALVE

The units automatically adjust the refrigerant flow rate, ensuring that the units operate with high efficiency in all weather conditions.

COMPRESSOR

Compressor with precise energy stage setting ensures that the working unit to achieve the desired energy saving effect.

COP

COP of 4.2 at working condition of 20°C/15°C the proteam heat pump has high efficiency for hot water supply.

TANK INSIDE WITH LONG LIFESPAN

The quality enamel tank make sure the life time for the tank and keep it health for hot water.

HEAT EXCHANGER

The coil outside of the inner tank, separate the Refrigerant with the tank water to keep it safety for the water quality. The quality coil heat exchanger make sure the high efficient for the heat pump water heater.





ALL IN ONE HOT MAGIC HEAT PUMP WATER HEATER SQUARE / ROUND TANK

Model	00500165	00500170	00500175	00500180
Heating Capacity at Air 20°C/15°C, Water Temperature from 15°C to 55°C				
Heating Capacity kW	2	2	2.2	2.2
Power Input kW	0.51	0.51	0.53	0.53
COP	3.92	3.92	4.16	4.16
Max Power Input kW	2.4	2.4	3000	3000
Rated Current (A)	2.6	2.6	2.9	2.9
Max Current (A)	12.2	12.2	15	15
Power Supply	220v/1/50Hz	220v/1/50Hz	220v/50Hz	220v/50Hz
Backup Electric Heater (W)	1500	1500	2000	2000
Refrigerant	R410A	R410A	R134A	R134A
Net Dimensions (mm)	500x500x1628	500x500x1628	620x1750	620x1950
Package Dimension (mm)	680x680x1805	680x680x1805	700x700x1930	700x700x2130
Net Weight (kg)	75	93	105	130
Noise (dB)	48	48	48	48
Water tank volume(L)	120	180	200	300
Working temperature °C	-7~43	-7~43	-7~43	-7~43





HIGH TEMPERATURE WATER HEAT PUMP

Proteam Europa specially designed high temperature water heat pumps for residential, hotel, Hospital and school projects. Maximum water temperature 15-60°C.

VARIABLE SPEED FAN

The working unit can be adjust fan speed at any time to reduce the input power meanwhile a reduce noise to achive energy saving and silent running.

EXPANSION VALVE

The unit automatically adjust the refrigerant flow rate ensure that the unit operate with high efficiency in all weather condition

HEAT EXCHANGER

This is made of double spiraled of the heat exchanger increase the surface area that comes in contact with the pool water and also drastically reduces scaling.

COMPRESSOR

We use the reliable COPELAND scroll compressor. The simple design is with very few moving parts that enable it to operate at lower sound and vibration levels than reciprocating compressors.

Model	00500100	00500110	00500115	00500130	00500135
Power Supply	220V/50Hz	380V/3/50Hz	380V/3/50Hz	380V/3/50Hz	380V/3/50Hz
Heating Capacity at Air 20°C/15°C, Water Temperature from 15°C to 60°C					
Heating Capacity kW	10	17	25	45	55
Power Input kW	2.83	3.56	5	10	12.7
COP	4.5	4.23	4.3	4.5	4.4
Max Power Input kW	3.36	4.52	7	13.5	16.8
Max Current (A)	15.3	21	22	33.5	31.5
Refrigerant	R410a	R410a	R410a	R410a	R410a
Rated Hot Water L/h	260	320	450	900	1200
Compressor	GMCC	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll
Expansion Valve	Electronic	Electronic	Electronic	Electronic	Electronic
Air Flow Direction	Horizontal	Horizontal	Vertical	Vertical	Vertical
Water Flow Volume (m3/h)	2.8	4.5	5	8	10
Dimensions (L*W*H) mm	986×420×798	986×420×798	765×691×1055	1416×752×1055	995×990×1785
Working Amb temp °C	-15~43	-15~43	-15~43	-15~43	-15~43
Noise (dB)	≤53	≤53	≤60	≤65	≤65
Net Weight (kg)	75	85	160	259	305
Connection (mm)	20	20	25	32	40
Water Pressure drop (kPa)	46	45	50	50	55





HIGH TEMPERATURE WATER HEAT PUMP

Model	00500140	00500145	00500150
Power Supply	380V/50Hz		
Heating Capacity at Air 20°C/15°C, Water Temperature from 15°C to 55°C			
Heating Capacity kW	80	125	200
Power Input kW	20.5	27.1	44.5
COP	4.42	4.45	5.5
Max Power Input kW	27.4	36.5	66
Max Current (A)	51.2	68.1	110
Refrigerant	R410a	R410a	R410a
Rated Hot water L/h	2000	2600	4000
Compressor	Copeland Scroll	Copeland Scroll	Copeland Scroll
Expansion Valve	Electronic	Electronic	Electronic
Air Flow Direction	Vertical	Vertical	Vertical
Water Flow Volume (m3/h)	16	18	33
Dimensions (L*W*H) mm	2150×1075×2175	2150×1075×2175	2250×2150×2177
Working temperature °C	-15~43	-15~43	-15~43
Noise (dB)	≤70	≤71	≤77
Net Weight (kg)	650	800	1600
Connection (mm)	50	50	80
Water Pressure drop (kPa)	55	55	58

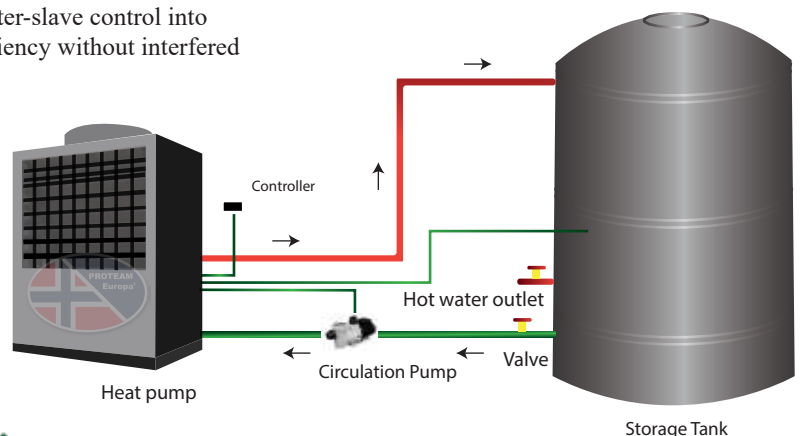


CENTRALIZED CONTROL PANEL

Proteam Heat Pump come equipped with centralized control that make temperature adjustment and failure review easier. By incorporating the master-slave control into the design, the whole units can work together with higher efficiency without interfered by any failure of the salve unit during operation.

FEATURES

- Adopt R410A refrigent environmantal friendly
- Higher water temperature output up to 60 degree C
- Adopt tube in tube heat exchanger and circulation
- Heating method higher COP
- Defrost automatically inteligent and fast
- High pressure protetin function
- With MODBUS communication
- Full automatically operation





DEHUMIDIFIER

Proteam Europa Dehumidifier specially designed for swimming pools, spas, shower rooms and gymnasias where high relative humidity and condensation can reduce the well-being of the occupants and cause damage to the building, efficient dehumidification is crucial. Proteam Air Handling's DH units are designed for aggressive environments and all other areas with high temperatures where controlling of humidity is required.

The DH range of ducted dehumidifiers has been specially designed for dehumidification in commercial pools and spas, in larger private pools and any other aggressive environment where high capacities are required to control the humidity. In smaller swimming pools, spas, shower rooms and gymnasias where the relative humidity is generally lower, the smaller DH units are the ideal solution. The compact DH units are highly flexible regarding installation. They are designed for installation in plant rooms, with ducted supply and return air, but can also be installed directly in the room that needs dehumidification with ducting optimizing the air distribution.



ENVIRONMENTALLY FRIENDLY REFRIGERANT

Dehumidifier uses R407c and R410a refrigerant, both high thermodynamic performance coolants that are environmentally friendly and totally harmless to the ozone layer. These coolants are in accordance with the Montreal protocol and will not harm the environment.

MONOBLOC DEHUMIDIFIER DH SERIES - ADVANTAGE

- Very quiet compressor
- Anti - corrosion plastic cabinet
- High quality steel structure
- Two speed fan
- Adjustable air outlet
- Easily cleaned drain pan

APPLICATION

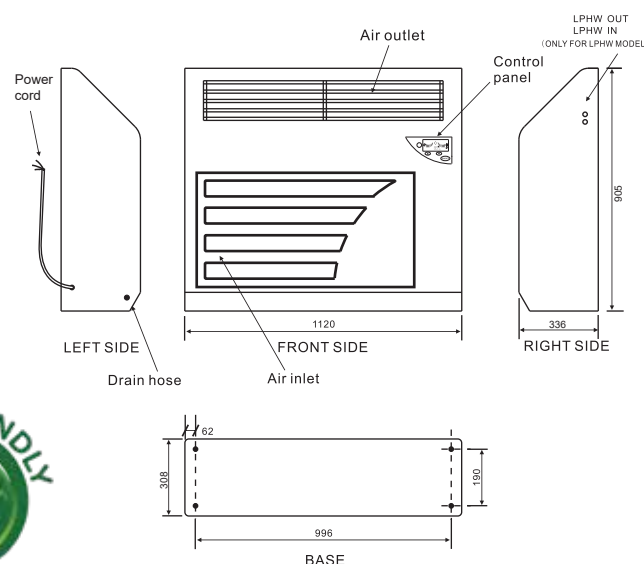
- Suitable for private swimming pools
- Design for use in rooms without big windows
- Three types of installation, wall mount, floor mount and wheel mount.

HUMANITY CONTROL

- Easily setting interface
- Remote controller can command unit in 8m

OPTIONAL PARTS

- Soft start
- Crank heater
- LPHW (Low Pressure hot water system)



Specification		DH-100	DH-200	DH-300	DH-400	DH-500	DH-600
Dehumidification capacity	Litre/h	3	4.5	6.5	9	11	16
Air heating capacity	Kw/h	1.6	2.2	3	4.5	5.5	7.2
Power consumption	kw/h	0.91	1.25	1.67	2.2	2.67	3.3
Air flow rate	cbm/h	450	500	750	900	1250	1550
Power supply	whz/ph	230/50/1			380/50/3		
Current	amp	4.3	6	7.8	10.2	12.9	15.5
Noise	dB(A)	46	48	52	56	60	62
Drain pipe	mm	16	16	16	16	16	16
Dimension	mm(depth)	890	890	1120	1120	1360	1360
	mm(width)	226	226	336	336	385	385
	mm(height)	750	750	905	905	900	900
Weight	kgs	48	52	82	89	120	128
Optional system - LPHW(low pressure hot water exchanger)							
LPHW heating capacity	kw/h	1	1	2.5	2.5	4	4



Intelligent control



* Test standard : Dry bulb temperature of 30°C, relative humidity of 80RH%

* All specification subject to change without notice.





MULTI FUNCTIONAL DEHUMIDIFIER WITH LPHW

Proteam Europa Swimming pool dehumidifier can work with LPHW (low pressure hot water) heater which will provide pool room more heating capacities . It allows you to connect the dehumidifier to your boilers and the air can be heated via a hot water pipe that passes through the dehumidifier.

MULTIFUNCTIONAL DEHUMIDIFICATION SYSTEM -DHB SERIES

ONE SYSTEM DELIVERS EVERYTHING YOU NEED

- It is designed with the accurate and efficient components and operating modes.
- Humidity is precisely controlled between 50% and 60% for maximum user comfort.
- Optimum water and air temperature is maintained for just correct balance , no more or no less.
- It permits great functions of dehumidification , air heating , pool water heating , air conditioning, fresh air ventilation
- It not only recycles waste energy from the dehumidification process to heat the pool water and air for free but also recover the energy from exhaust air to inlet fresh air in the ERV core.
- Vital system components are engineered for long life and minimal maintenance assuring a high return on investment.

MULTIFUNCTIONAL DEHUMIDIFICATION SYSTEM DHB - SERIES

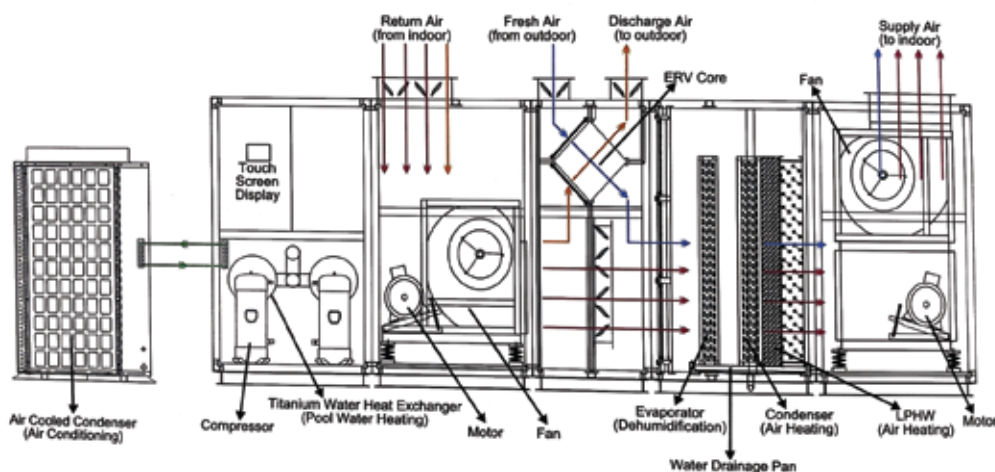
FUNCTION

- Dehumidification
- Air heating
- Air conditioning
- Pool water heating
- Fresh air ventilation
- Shower Hot water heating
- Energy Recovery Ventilation





MULTI FUNCTIONAL DEHUMIDIFIER WITH LPHW



Specification	DHB-100	DHB-200	DHB-300	DHB-400	DHB500	DHB-600	DHB-700	DHB-800	DHB-900
Dehumidification capacity litre/h	25	35	50	60	80	100	120	150	180
Air heating capacity kw/h	48	67.5	95.8	114.1	142.5	175	215.2	291.4	322.5
supply air cbm/h	6000	9000	15000	15000	24000	30000	36000	45000	60000
External static pressure pa	300	300	300	300	300	300	300	300	300
Compressor consumption power kw/h	12.3	17.2	24.5	28.9	37.2	47.5	57.2	73.8	87.1
Fan motor consumption power kw/h	3	3.8	5.5	5.5	8.5	11	12.5	15.2	16.5
Total consumption Power kw/h	15.3	15.3	30	34.4	45.7	58.5	69.7	89	103.6
fresh air cbm/h	0~1800	0~2500	0~4500	0~4500	0~6000	0~7500	0~9000	0~12000	0~15000
fresh air valves type	Automatic								
Air filter type	Initial effect								
Power supply whz/ph	380-415/50/3								
Refrigerant type	R407c/R410a								
Protection type	Phase protection, High/low pressure protection, Overload Protection, water proof PCB, Compressor `staged start, compressor Auto protection, fan motor Auto protection								
Condensing water drain connection mm	25	25	32	32	32	32	32	40	40
Dimensions mm(length)	4350	4500	5500	5500	6200	7100	7800	6700	7200
mm(width)	1400	1680	1800	1800	1900	2050	2400	3150	3500
mm(height)	1430	1730	1780	1780	1980	2130	2380	1980	2130
Weight kgs	1250	1550	2150	2300	2750	3050	3300	3750	4300
Optional heating system									
Pool heating capacity kw/h	55	77	110	110	160	210	250	300	380
Pool water flow cbm/h	8	12	20	20	25	35	40	50	60
Pool water connection mm	75	110	110	110	110	110	110	110	110
LPHW/electric heater kw/h	55	75	110	110	180	210	250	300	350
LPHW water connection mm	40	40	50	50	50	50	50	65	63
Optional air conditioning system									
Cooling capacity kw/h	43	60	85	100	130	165	200	260	305
outdoor unit fan motor power kw/h	0.5	1	1.8	2	3.6	5	5	6.6	6.6
Dimensions mm(length)	1420	1420	1420	1420	1490	1420	1490	1490	1490
mm(width)	760	760	760	760	740	760	740	740	740
mm(height)	927	1177	927	1177	1500	1177	1500	1500	1500
Weight kgs	112	124	112	124	148	124	148	148	148





DUCT TYPE DEHUMIDIFIER

PROTEAM Europa ducted dehumidifier (A-Series) is a suitable dehumidification system not only for pools spa / sauna places, but also the most widely used in center plants, commercial offices, green, house, scientific research institution, laboratory, medical factory, instrumentation, military, underground engineering, library places, where require high standard humidity and temperature control and adjustment.

Proteam ducted dehumidifier (A-Series) has been designed especially to meet your evaporation needs. Available in 9 capacities we offer from 10 to 80 L/hr (240 to 1920 L/day), which meet different and wide size of the spaces. The dehumidifier effectively conditions inside humid air and provides the poperamount of fresh ventilation for space up to 6,000 square feet. As is standard with all ducted product, they will effectively dehumidity down to 16°C and will provide outstanding performance, providing whole space dry all year round. The ducted dehumidifiers are highly flexible to install. They are close to silent and when installed with ducting vents, operational noise will be absorbed by the wall.



Specification	DHD-100	DHD-150	DHD-200	DHD-250	DHD-300	DHD-400	DHD-500	DHD-600	DHD-800
Dehumidification capacity litre/h	10	15	20	25	30	40	50	60	80
Air heating capacity kw/h	21.3	31.8	43.7	52.4	61.4	82.7	105	120	165
supply air cbm/h	3000	4500	5500	7000	8500	11000	14000	16000	21000
External static pressure pa	120	120	150	150	200	300	300	300	300
Compressor consumption power kw/h	5.25	7.83	10.32	13.4	13.7	17.7	26.8	28.2	35.2
Fan motor consumption power kw/h	0.37	0.8	1.5	1.5	3	4	5.5	7.5	9
Total consumption Power kw/h	5.77	9.18	12.57	16	17.8	23.9	33.5	35.9	45.8
Power supply hz/ph	380-4415/50/3								
Refrigerant type	R407c/R410Aa								
Air filter type	Initial effects								
Protection type	Phase protection, High/Low pressure protection, overload protection, water-proof PCB, Compressor stage start, Compressor Auto Protection, Fan Motor Auto-Protection								
Condensing water drain connection inch	25	25	25	25	25	25	25	40	40
Dimensions mm (Depth)	1500	1500	1750	2000	2000	2600	2900	2900	3050
mm (Width)	730	730	730	800	800	1550	1900	2100	2100
mm(Length)	1580	1580	1880	2080	2080	2330	2330	2330	2750
Weight kgs	300	360	410	480	530	620	980	1200	1480
Air cooled Condenser for air cooling (optional system)									
Air colled capacity	17.8	26.5	36.4	43.8	51.2	68.9	85	102	135
Fan moter power	0.15	0.75	0.75	0.8	0.8	1.3	0.8	0.8	1.3
Inlet pipe diameter	3/4	3/4	3/4	1	1	1 1/4	1	1	1 1/4
Outlet pipe diameter	1/2	1/2	1/2	3/4	3/5	7/8	3/4	3/5	7/8
mm (Depth)	760	760	1420	1420	1420	1490	1420	1420	1490
Dimensions mm (Width)	720	720	760	760	760	740	760	760	740
mm(Length)	1020	1020	1040	1290	1290	1500	1040	1290	1500
Weight kgs	56	56	112	130	130	148	112	124	148

Optional System									
Pool heating capacity kw/h	23	34.4	47.2	56.6	67.9	89.3	115	135	180
Pool water flow cbm/h	4	5	7	9	11	14	18	22	30
Pool water connection mm	50	50	75	75	75	75	75	110	110
Fresh air flow	0.900	0-1350	0-1650	0-2100	0-2550	0-3300	0-4200	0-2550	0-7000
LPHW/electric heater kw/h	22	34	46	55	66	89	110	130	160
LPHW water connection mm	32	32	32	32	32	50	65	65	65



