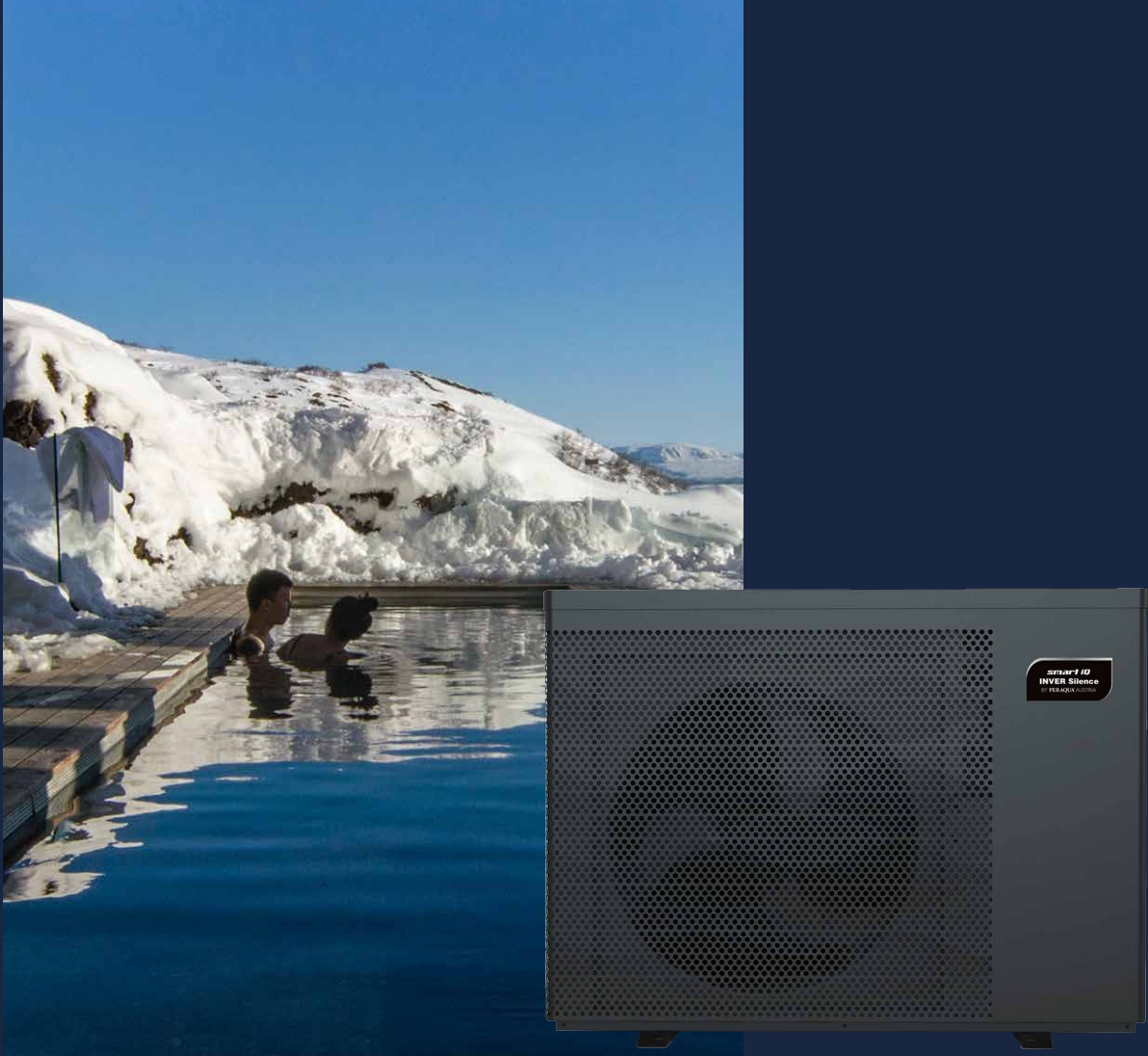


POOL HEATING



INVERTER HEAT PUMPS | PE ABSORBER
HEAT EXCHANGER | ELECTRIC HEATERS





CARIBBEAN WARM AND NORTH SEA FRESH POOL WATER

Heating & cooling: Individual water temperature in the pool with heat pumps

The Smart Full Inverter heat pumps from Peraqua are air-to-water heat pumps. The contained refrigerant R32 is heated or cooled by the air drawn in. The gas is then compressed in a compressor and the heat energy is transferred to the pool water via a heat exchanger.

Peraqua® full-inverter heat pumps are equipped with compressors that operate at variable speeds. The speed is increased or reduced depending on the energy requirement and the ambient conditions. Each model also supports automatic defrosting.

What is the COP value for pool heat pumps?

The effectiveness of a heat pump is characterized by the coefficient of performance (COP). This is defined as the quotient of the heat output delivered to the pool water and the required electrical power.

A	COP ≥ 5
B	$4,5 \leq \text{C.O.P.} < 5$
C	$3,5 \leq \text{C.O.P.} < 4,5$
D	$\text{C.O.P.} < 3,5$

WHY FULL-INVERTER TECHNOLOGY?

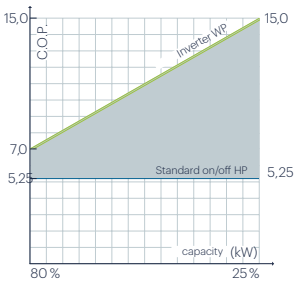
- **65% higher COP than with commercially available on/off heat pumps**
- **50% higher COP than with commercially available inverter technologies**

Inverter technology is leading the industry. With this technology, you can enjoy a very special swimming experience with up to 65% higher efficiency than with an on/off heat pump.

Inverter HP versus standard on/off HP (while maintaining the pool temperature)

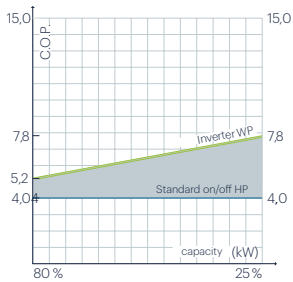
Performance condition:

Air 26 °C | Water 26 °C
Humidity 80%



Performance condition:

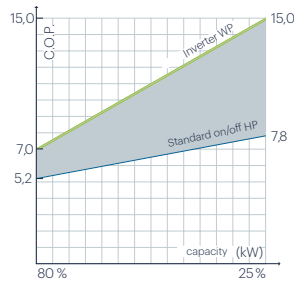
Air 15 °C | Water 26 °C
Humidity 70%



Inverter HP versus commercially available inverter HP (while maintaining the pool temperature)

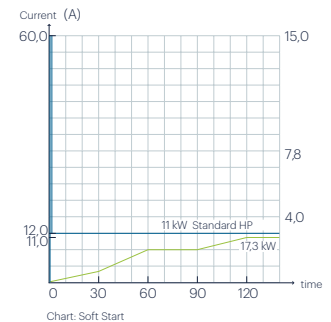
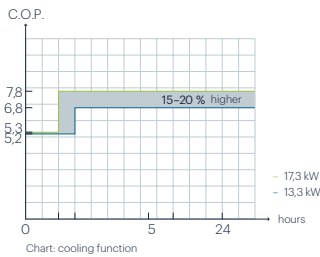
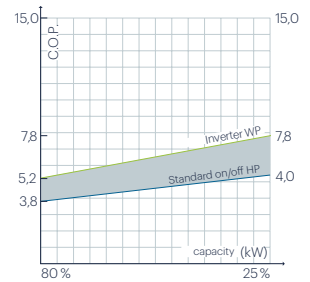
Performance condition:

Air 26 °C | Water 26 °C
Humidity 80%



Performance condition:

Air 15 °C | Water 26 °C
Humidity 70%



→ Soft Start

When the heat pump is started, the output of the compressor is slowly increased so that the domestic supply is not overloaded.

→ 10× quiet

By using the very quiet Mitsubishi inverter compressor and an acoustically optimized fan control, the inverter pump guarantees 10 × quieter operation than conventional heat pumps (while maintaining the pool temperature). It is the quietest heat pump on the market.

→ Control with a PV system

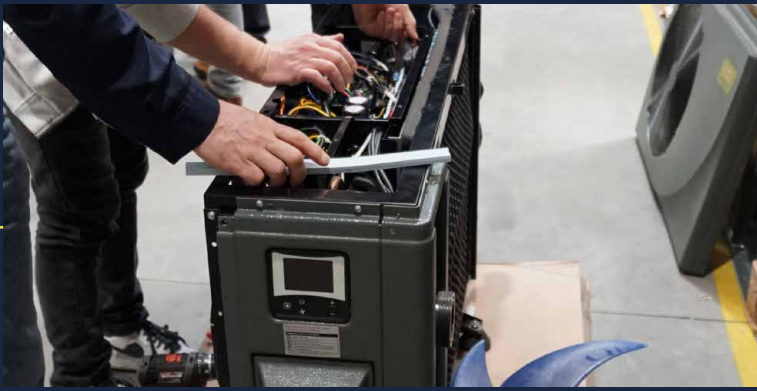
By integrating an enabling contact, our heat pumps can be intelligently connected to an inverter so that the pool heating is only enabled in the event of a power surplus.

→ Smart choice

When integrating a heat pump into a pool system, we recommend a larger model. Why?

- The heat pump can be operated with a lower output range
- Avoidance of exceeding the power limit
- Audibly quieter sound level and calmer swimming environment
- Higher energy savings through more efficient operation





COMPREHENSIVE SERVICE FOR PARTNERS & EXISTING CUSTOMERS

Repairs

Our qualified technicians identify heat pump error codes and provide remote advice. In the event of a warranty claim or if a field service visit is required, defects in the DACH region can be rectified personally and professionally.

Spare parts service

We have a large stock of original spare parts. We can procure spare parts for you quickly and reliably. Our technical team will be happy to advise you on selecting the right spare parts. Please have the serial number ready.

Training courses

Find out everything you need to know about how your heat pump works and how to use it efficiently. Our technicians and heat pump specialists will show you how it works: how to operate, repair, service, replace spare parts and rectify faults.



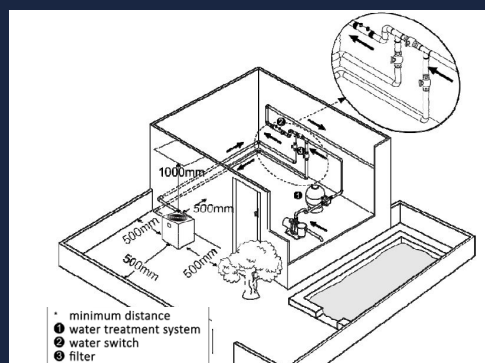
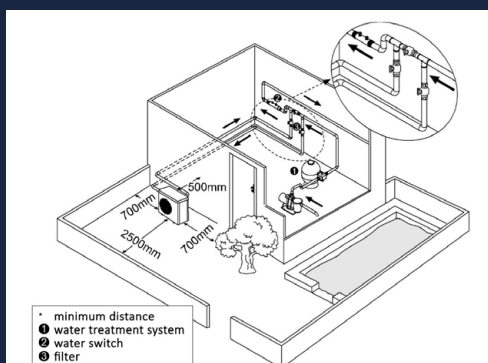
We offer an extended warranty of 5 years on our Smart heat pumps* You can also benefit from extended warranties on heat exchangers and heat pump compressors.

*Except Smart heat pump ECO and commercial



Smart heat pumps are equipped with vibration absorbers, winter cover and condensate drain set as standard.

Please observe the minimum distances during installation:



smart FULL INVERTER HEAT PUMP

IQ INVER SILENCE

- » variable speed
- » Modbus capable
- » Touch control with integrate WLAN connection, free app
- » robust metal housing
- » extremely quiet



extended warranty



on heat exchanger



on compressor



Item No.	7301031	7301032	7301033	7301034	7301035	7301037	7301038
Recommended pool volume (m ³)*	20-40	25-50	30-60	40-75	55-100	65-120	90-160
Operating temperature (°C)	-15-43*						
Operating conditions: Air 26°C, water 26°C, humidity 80%							
Heating capacity (kW) Smart Mode	8,5	11,0	13,8	17,5	21,5	27,0	35,0
Heating capacity (kW) Turbo Mode	10,2	13,2	16,8	21,0	25,5	31,5	40,0
COP in Smart Mode	7,8	8,2	7,5	7,3	7,8	7,4	7,3
COP	15.1-7.1	15.0-7.3	15.5-6.4	15.0-6.3	16.0-6.8	15.8-6.3	15.8-6.4
COP at 50% speed	11,4	11,6	11,2	11,2	11,3	11,2	11,1
Operating conditions: Air 15°C, water 26°C, humidity 70%							
Heating capacity (kW) Smart Mode	6,3	7,3	9,4	11,8	14,8	18,0	24,0
Heating capacity (kW) Turbo Mode	7,5	8,8	11,3	14,3	17,5	21,5	28,0
COP in Smart Mode	5,2	5,3	5,0	5,0	5,4	5,3	5,1
COP	6.9-4.8	6.8-4.9	7.3-4.4	7.8-4.6	7.8-4.9	7.8-4.9	7.9-4.7
COP at 50% speed	6,5	6,5	6,6	6,8	6,8	6,8	6,7
Operating conditions: Air 35°C, water 28°C, humidity 80%							
Cooling capacity (kW)	4,4	5,6	6,5	8,0	11,6	13,6	16,0
Sound pressure 1m dB(A)	38.5-45.5	38.6-46.9	42.0-47.7	42.9-50.8	40.8-51.2	43.3-51.9	42.5-51.7
Sound pressure at 10m dB(A)	18.5-25.5	18.6-26.9	22.0-27.7	22.9-30.8	20.8-31.2	23.3-31.9	22.5-31.7
Sound pressure at 50% speed 1m dB(A)	39,5	41,3	43,7	44,5	44,4	46,4	43,8
Heat exchanger	Titanium						
Housing	Metal						
Power supply	230V/1 Ph/50Hz				400V/3 Ph/50Hz		
Rated input power at 15 °C (kW)	0.18-1.53	0.22-1.8	0.26-2.56	0.31-3.08	0.38-3.53	0.46-4.4	0.60-5.94
Rated current at 15 °C (A)	0.78-6.65	0.96-7.82	1.14-11.3	1.35-13.4	1.65-15.3	0.66-6.35	0.87-8.57
Recommended water flow (m ³ /h)	2-4	3-4	4-6	6.5-8.5	8-10	10-12	12-18
Pipe specification in-out (mm)	50						
Net dimensions LxWxH (mm)	799×432×650	893×432×650	939×432×650	995×432×750	1125×429×952	1074×539×947	1260×539×947
Net weight	59	61	65	70	98	111	126

* Efficient and optimum operation only recommended above freezing point (0 °C). The specified values apply under ideal conditions: Pool is covered with an isothermal cover, filter system runs for at least 15 hours a day, slight deviations in the technical specifications are possible depending on the system and subject to technical changes.

smart FULL INVERTER HEAT PUMP

IQ INVER SILENCE, VERTICAL

- » vertical discharge direction
- » variable speed
- » Modbus capable
- » Touch control with integrate WLAN connection, free app
- » robust metal housing
- » extremely quiet



extended warranty



on heat exchanger



on compressor



Item No.	7301269	7301270	7301271	7301272
Recommended pool volume (m ³)*	25-50	30-60	40-75	50-100
Operating temperature (°C)	-15~43*			
Operating conditions: Air 26°C, water 26°C, humidity 80%				
Heating capacity (kW) in Smart Mode	11	14	17,5	22
Heating capacity (kW) in Turbo Mode	13,2	17,2	21	26
COP in Smart Mode	7,7	7,8	7,3	7,8
COP	15,0-6,8	15,6-6,5	15,5-6,3	14,9-6,8
COP at 50% speed	11,5	11,7	11,6	11,3
Operating conditions: Air 15°C, water 26°C, humidity 70%				
Heating capacity (kW) in Smart Mode	7,3	9,8	11,6	14,5
Heating capacity (kW) in Turbo Mode	8,8	11,6	14,3	17,5
COP in Smart Mode	5,0	4,9	4,9	5,0
COP	7,3-4,5	7,8-4,5	7,4-4,4	7,3-4,8
COP at 50% speed	6,5	6,7	6,8	6,3
Operating conditions: Air 35°C, water 28°C, humidity 80%				
Cooling capacity (kW)	5,8	7,1	8,2	12,0
Max. Sound pressure 1m dB(A)	38,8-47,9	42,2-48,6	43,1-52,1	41,0-52,9
Sound pressure at 50% speed 1m dB(A)	41,9	44,3	45,2	45,3
Max. Sound pressure 10m dB(A)	18,8-27,9	22,2-28,6	23,1-32,1	21,0-32,9
Heat exchanger	Titanium			
Housing	Aluminium			
Power supply	230V/1 Ph/50Hz			
Rated input power at 15°C (kW)	0,21-1,95	0,26-2,51	0,33-3,08	0,42-3,67
Rated current at 15°C (A)	0,91-8,48	1,14-10,9	1,43-13,4	1,82-15,9
Recommended water flow (m ³ /h)	3-4	4-6	6,5-8,5	8-10
Pipe specification in-out (mm)	50			
Net dimensions LxWxH (mm)	710x753x668	710x775x668	710x775x668	710x775x743
Net weight (kg)	66	71	78	102
Gas (g)	700	1000	1200	2000
GWP	675			
CO2 Equivalent (tons)	0,473	0,675	0,810	1,350

* Efficient and optimum operation only recommended above freezing point (0°C). The specified values apply under ideal conditions: Pool is covered with an isothermal cover, filter system runs for at least 15 hours a day, slight deviations in the technical specifications are possible depending on the system and subject to technical changes.

smart FULL INVERTER HEAT PUMP PLUS

- » variable speed
- » Modbus capable
- » Touch control with integrate WLAN connection, free app
- » ABS housing
- » extremely quiet



extended warranty



on heat exchanger and Compressor



Item No.	7300714	7300715	7300772	7300716
Recommended pool volume (m ³)*	25-45	30-55	35-65	40-75
Operating temperature (°C)	-7~43*			
Operating conditions: Air 26°C, water 26°C, humidity 80%				
Heating capacity (kW)	10,3	12,8	15,0	17,3
COP	14.5-6.9	15.0-7.4	15.5-6.7	14.8-5.9
COP at 50% speed	10,4	11,0	10,9	10,5
Operating conditions: Air 15°C, water 26°C, humidity 70%				
Heating capacity (kW)	7,1	8,3	10,5	11,4
COP	7.3-4.6	7.7-4.8	7.8-4.6	7.5-4.3
COP at 50% speed	6,4	6,8	6,6	6,1
Operating conditions: Air 35°C, water 28°C, humidity 80%				
Cooling capacity (kW)	4,5	5,5	6,8	7,7
Sound pressure 1m dB(A)	38.6-49.9	42.1-50.7	41.3-54.0	43.1-53.8
Sound pressure at 10m dB(A)	18.6-29.9	22.1-30.7	21.3-34.0	23.1-33.8
Sound pressure at 50% speed 1m dB(A)	43,3	45,7	46,0	46,5
Compressor	Mitsubishi DC Inverter			
Heat exchanger	Titanium			
Housing	ABS			
Power supply	230V/1 Ph/50Hz			
Rated input power at 15°C (kW)	0.19-1.5	0.22-1.73	0.27-2.2	0.3-2.6
Rated current at 15°C (A)	0.83-6.5	0.96-7.52	1.17-9.6	1.3-11.3
Recommended water flow (m ³ /h)	3-4	4-6	5-7	6.5-8.5
Pipe specification in-out (mm)	50			
Net dimensions LxWxH (mm)	961×340×658	961×340×658	961×340×658	961×420×658
Net weight	49	50	52	63
Gas (g)	750	800	900	1000
GWP	675			
CO2 Equivalent (tons)	0,506	0,540	0,608	0,675

* Efficient and optimum operation only recommended above freezing point (0 C°). The specified values apply under ideal conditions: Pool is covered with an isothermal cover, filter system runs for at least 15 hours a day, slight deviations in the technical specifications are possible depending on the system and subject to technical changes.

smart INVERTER HEAT PUMP ECO

- » 3-stage
- » optional: WLAN connection for control via mobile devices, free app
- » metal housing



extended warranty



on heat exchanger and compressor



Item No.	7300704	7300706	7300707	7300708	7300709
Recommended pool volume (m ³)*	15-30	20-35	30-50	35-65	45-80
Operating temperature (°C)	0-43*				
Operating conditions: Air 26°C, water 26°C, humidity 80%					
Heating capacity (kW)	7,0	9,0	12,5	16,0	20,0
COP	10.3-6.6	10.6-6.8	11.6-7.0	11.2-7.1	11.8-6.5
COP at 50% speed	9,3	9,6	10,1	9,7	10,2
Operating conditions: Air 15°C, water 26°C, humidity 70%					
Heating capacity (kW)	5,0	6,3	8,5	11,0	14,0
COP	6.0-4.8	6.1-4.5	6.3-4.8	6.4-4.7	6.5-4.6
COP at 50% speed	5,8	5,7	6,1	5,9	6,1
Operating conditions: Air 35°C, water 28°C, humidity 80%					
Cooling capacity (kW)	2,5	3,1	4,6	5,6	7,8
Sound pressure 1m dB(A)	38.8-50.2	40.6-52.5	42.9-53.0	45.2-56.3	45.3-57.1
Sound pressure at 10m dB(A)	18.8-30.2	20.6-32.5	22.9-33.0	25.2-36.3	25.3-37.1
Sound pressure at 50% speed 1m dB(A)	42,8	45,8	48,5	48,7	49,6
Heat exchanger	Titanium				
Housing	powder-coated metal				
Power supply	230V/1 Ph/50Hz				
Rated input power at 15°C (kW)	0.29-1.04	0.36-1.40	0.47-1.78	0.59-2.34	0.75-3.04
Rated current at 15°C (A)	1.26-4.52	1.57-6.09	2.02-7.74	2.52-10.17	3.26-13.21
Recommended water flow (m ³ /h)	2-4	3-4	4-6	6.5-8.5	8-10
Pipe specification in-out (mm)	50				
Net dimensions LxWxH (mm)	744×359×648	864×359×648	864×359×648	954×359×648	954×359×748
Net weight (kg)	42	46	49	60	68

* Efficient and optimum operation only recommended above freezing point (0 °C). The specified values apply under ideal conditions: Pool is covered with an isothermal cover, filter system runs for at least 15 hours a day, slight deviations in the technical specifications are possible depending on the system and subject to technical changes.

smart FULL INVERTER HEAT PUMP PLUS, COMMERCIAL

- » variable speed
- » Modbus capable
- » Touch control with integrated WLAN connection, free app
- » metal housing



extended warranty




Item No.	7300720	7300721
Recommended pool volume (m ³)*	130-260	260-520
Operating temperature (°C)	-7-43*	
Operating conditions: Air 26°C, water 26°C, humidity 80%		
Heating capacity (kW)	59,6	109,0
COP at 50% speed	10,0	9,8
Operating conditions: Air 15°C, water 26°C, humidity 70%		
Heating capacity (kW)	39,4	80,5
COP at 50% speed	6,7	6,6
Operating conditions: Air 35°C, water 28°C, humidity 80%		
Cooling capacity (kW)	26,2	53,7
Sound pressure 1m dB(A)	54.0-62.0	56.0-65.0
Sound pressure at 10m dB(A)	34.0-42.0	36.0-45.0
Sound pressure at 50% speed 1m dB(A)	56,0	58,0
Compressor	DC-Inverter	
Heat exchanger	Titanium	
Housing	Aluminium	
Power supply	400V/3 Ph/50Hz	
Rated input power at 15°C (kW)	2.20-8.03	4.69-17.9
Rated current at 15°C (A)	3.17-11.59	6.77-25.8
Max. input current (A)	20	40
Circuit breaker (A)	25,0	48,0
Recommended water flow (m ³ /h)	20-25	40-50
Pipe specification in-out (mm)	75	110
Net dimensions LxWxH (mm)	1000x1110x1260	2100x1090x1280
Net weight (kg)	212	459
Gas (g)	5500	11000
GWP	2088	
CO2 Equivalent (tons)	11,48	22,97

* Efficient and optimum operation only recommended above freezing point (0 C°). The specified values apply under ideal conditions: Pool is covered with an isothermal cover, filter system runs for at least 15 hours a day, slight deviations in the technical specifications are possible depending on the system and subject to technical changes.

smart PE ABSORBER

Low pressure loss, high efficiency, absolutely frost-proof (with drained pipes), fully accessible, easy installation, suitable for Praher Plastics solar control units and PVC piping material



Technical data	Types	Praher 3-ball valve SOLAR 
<ul style="list-style-type: none"> » Material: HDPE » Pressure loss approx. 0.003 bar at 200 l/h/m² » Flow rate: 150-250 l/m²/h » Weight: approx. 6 kg/m² - Water content: 6 l/m² » Test pressure: 4.5 bar » Operating pressure: up to 1.2 bar at » 40 °C Efficiency: up to approx. 85% » Output: up to 0.85 kWh/m² » Temperature-resistant at idle from -50 °C to +115 °C » Collector pipe: Ø 40 mm 	<ul style="list-style-type: none"> » 2 connection pieces and integrated collector pipe on one side » 4 connection pieces » Collector pipe on both sides 	<p>Operation with the filter pump via 3-way ball valve with differential temperature control:</p> <p>As a rule, the connection variant can always be selected if the absorbers are not installed higher than 6 m above the water surface. The 3-way ball valve is installed in the pressure line of the filter system. The 3-way ball valve is switched over by the differential temperature control when the absorber temperature is higher than the swimming pool water temperature. The filter flow is then pumped through the absorbers. The heated water flows back into the filter circuit via a T-piece.</p>

smart TITANIUM HEAT EXCHANGER

The compact titanium multi-tube bundle element is located in an optimally insulated outer chamber. The small volume of the chamber combined with the high surface area of the titanium tubes ensures outstanding efficiency with minimal energy losses. 100% compatible with salt chlorinator pools.



Technical data	Types	Smart Touch Screen heating controller 
<ul style="list-style-type: none"> » consists of 36 titanium tubes: built for eternity » Water connection primary circuit: 1" BSP female thread (1" male/ female brass thread adapter included) » Secondary circuit water connection: 1½"/50 mm adhesive connection » Including 2 x 1" AG brass double nipples, 1 x cover cap for thermo-well, 1 x brass non-return valve 1" IG » Material primary side: AISI 316L (V4A) (EN 1.4432) stainless steel » Material secondary side: Titanium » Max. Operating pressure: 4 bar 	<ul style="list-style-type: none"> » 30 kW » 49 kW » 85 kW » 122 kW 	<ul style="list-style-type: none"> » Suitable for easy control of any Smart Titan tube heat exchanger. With Wifi function, temperature sensor and flow sensor. Can be controlled remotely via the TouchSmart Plus app. » The „Priority of Heating“ function is used to keep the water temperature constant at the desired temperature. » Ready for smart home integration Multilingual interface » Programmable 24-hour clock (4 time zones) » Flow and temperature sensor connections » Precise control to 0.5° C » Diagnostic report » Also available as a cooling controller type

smart

TITANIUM ELECTRIC HEATER

The Smart titanium electric heater for pools is equipped with a temperature sensor and overheating thermostat. A flow switch enables safe operation. The titanium flow tube and titanium heating element(s) make the electric heater effective, robust and durable. The touchscreen control with instant start function enables simple and user-friendly operation. Ideal for pools and spas. Ideal in combination with PV systems: In the event of an energy surplus, the energy is used sensibly for pool heating.



Technical data	Types
<ul style="list-style-type: none">» Easy installation, fully equipped and pre-wired» Equipped with a temperature sensor and overheating thermostat» Compact, durable design» Touchscreen control with soft start to protect the power supply» Titanium flow tube and titanium heating element(s)» Can be mounted horizontally or vertically on the wall» Vortex, long service life, clean heating element technology» 100% efficiency over the entire product service life» Quiet operation	<ul style="list-style-type: none">» 3 kW - 1-phase» 6 kW - 3-phase» 9 kW - 3-phase» 15 kW - 3-phase

smart

TITANIUM PLATE HEAT EXCHANGER

The plate heat exchanger for heating and cooling commercial pools is characterized by its high overall heat transfer coefficient and high performance with a low holding volume.

The plate heat exchangers are designed individually for each project. Therefore, you can download a form from our webshop.



Technical data	Types
<ul style="list-style-type: none">» Versatile, modular structure, compact design» Titanium plates» Connection: M G1" 1/4 AISI 304 thread» Sheet and sealing materials available for most fluid types» Easy disassembly for quick cleaning	<ul style="list-style-type: none">» 30 kW» 50 kW» 80 kW» 102 kW» larger types on request

PERAQUA®



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Water Products GmbH**
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