

KLEVA HEAT

Intelligent Aquatic Heat Pumps

WWW.KLEVAHEAT.COM

Most Advanced Thermo dynamic INVERTER Engineering Available

Highest Efficiency Premium Range

1kW Electricity Produces up to 16kW HEAT

Produces 93% FREE Heat

Patented Quality Engineering

Lowest running cost = Ongoing \$\$\$ Savings



Specialised Pool Lighting and Heating technology Pty Ltd

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Kleva Heat Inverter Heat Pump is up to 16.4 TIMES more energy efficient



Pool Heating Efficiency Comparisons

Heat Technology	Efficiency	COP
Kleva Heat Inverter Heat Pump	Produces up to 16kW of heat from 1kW of electricity 16 Times more Efficient	16
Standard on/off heat pump	Produces average 4kW of heat from 1kW of electricity	4
Gas heating	Produces about 830W of heat from 1kW of gas	0.83
Element Electric element	Produces average 1kW of heat from 1kW of electricity	1
Solar Water Collector	Produces average 0.4kW of heat from 1kW Btu of sunlight	0.4

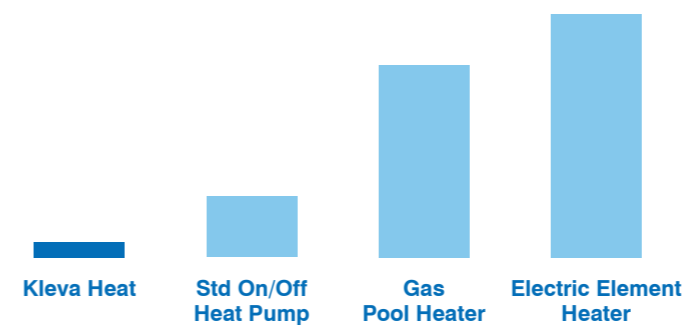
* COP Coefficient of Performance is the universal measure of water heating efficiency, how many times more heat is produced for every 1kW of electricity consumed.



25 Yr WARRANTY
Heat Exchanger

INVTR-S Xtreme Silence Premium Series

Running Cost kW Hour



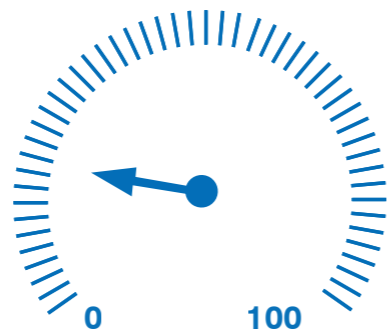
Patented Back-Discharge Design Invisible Fan Ultra Quiet



Patented BACK DSCHARGE contoured acoustic moulded casing delivers quietest possible operation in class while enhancing heating efficiency synchronises the operating system automatically.

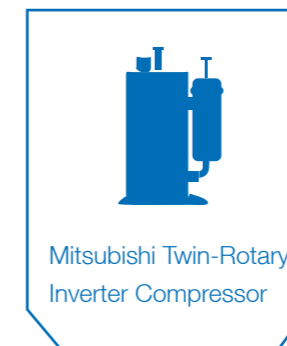
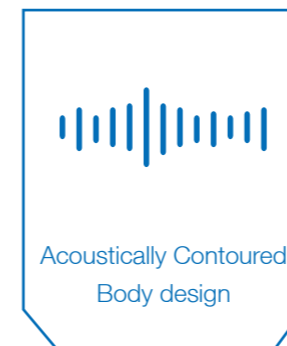
Full Range Intelligent Inverter

Inverter Management System harnesses the industry's leading efficient full inverter twin rotary Mitsubishi compressor control system. With smart conversion of compressor, fan motor & EEV pressure system, it provides best in class ongoing energy savings while delivering highest heating output performance.



Extreme Silence: by design

Enjoy the quiet by INVTR-S EXTREME SILENCE. Thanks to the patented air stream design technology and the noise canceling acoustic casing the sound output is less than a domestic fridge.



**Average Acoustic
Level is 43 dB(A) at 1
meter distance**



High Performance: High Efficiency

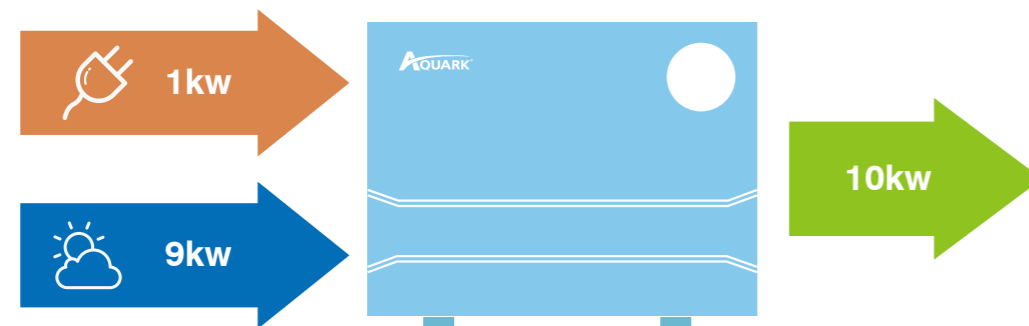
COP range 15.8-6.9 (air 27 °C / water 27°C)

**1kW of electricity produces up to 16kW of water heating(COP)
Average-COP 10.6 for all seasons**

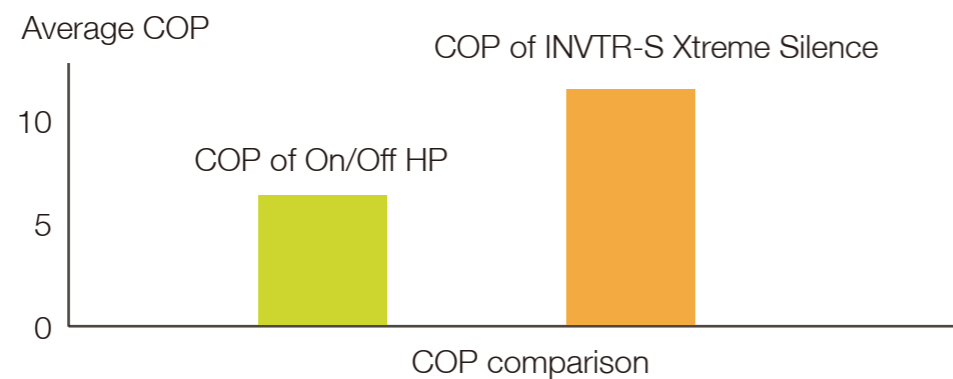
When maintaining pool temperature for 95% of pool season, the heat pump is running at 50% capacity which results in the best energy saving performance and most silent pool environment.

+93% Free Energy

Thanks to full range stepless DC inverter technology, Xtreme Silence INVTR-S provides average 90% free energy from ambient air.



Double energy saving compared with on/off heat pump.



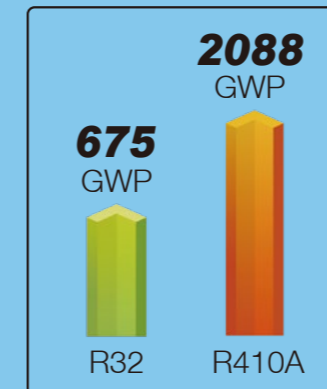
Simple Classic Touch Controller Plus Wifi Std

Xtreme Silence iNVTR-S offers simple touch controller for user-friendly experience. Silent and Boost Mode and remote WiFi control are standard features.



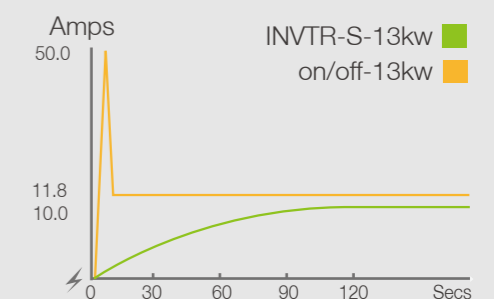
Eco-friendly R32

R32 gas is the next generation refrigerant. 32% GWP comparing to R410A, 25% CO₂ carbon consumption, 25% gas quota cost.



Intelligent System Protection Soft Start

The input current starts from 0 Amps rising steadily to rated Amps. No spike, or rush to residential home electricity system. Extreme Silence INVTR-S automatically adapts to a wide voltage range from 180~260V and adjusts the system to different atmospheric conditions.



Solar PV Panel Friendly

Main Features and benefits of INVTR-S XTREME SILENCE

Up to 25 Year Warranty Best in class components	· Titanium twisted Heat 40% more effective than standard
	· Exchanger 25year warranty
	· Twin Rotary Inverter Compressor Mitsubishi 5 Year warranty
	· Components 2 Year warranty
	· Factory technician training
	· Factory backed component warranty
	· Company distributed equipment to pool industry since 1997
	· Greatest VALUE for money
	· Composite alloy and ABS casing for harsh climate
	· Low total cost of ownership
· Best Lifetime Value for money	
TUV International Rheinland Tested	· Built to highest international quality standard, durable and reliable for Australian conditions
Highest operating efficiency 1kW of Electricity produces up to16kW of heat	· 1kWh of electricity produces average 10.6 kW of heat
	· 90% free atmospheric heat
	· Lowest Running cost 50% less than standard Heat pump
	· Saves on power bills
Patented Side airflow and back discharge invisible fan extreme silence	· Quietest Heat Pump in Class
	· Less space needed to operate
	· Requires smaller operating space
	· Only 500mm clearance around heat pump means more placement options
Patented contoured ABS and Alloy Unique Silent Acoustic design	· Lowest Decibel Output under 42dB
	· Quieter than home fridge
	· Quietest acoustic output
	· Anti-Corrosive durable materials
Lowest annual heating cost	· Blue fin evaporator
	· Intelligent control system saves more than 50% compared with on/ off heat pump

Full range intelligent inverter controller: Inverter control system synchronises compressor, DC fan motor pressure system for highest heat output at lowest cost	· Most effective heating range
	· Lowest energy cost
	· Longer component life
Electronic Expansion Valve manages refrigerant EEV technology	· PV Solar Panel Friendly
	· Saves money and boosts operating efficiency with automatic refrigerant management
One touch easy to use touch controller with	· Easy to use, one touch
	· Flexible operating modes eg night mode
	· Booster and Silent mode
Standard Wi-Fi enabled control your swimming fun any time from anywhere	· Convenience, greater operating control anywhere
ECO sustainable R32 refrigerant	· Lower carbon footprint
	· More efficient higher output refrigerant
24/7 Hour Help Access Support	· 24 turnaround help service
Heating and cooling	· Versatile options to heat all year round
Auto defrost is standard	· Operates between -10 and 42 degrees C
Full range of sizes between 7 kw and 35 kw	· Optimal sizing saves money and boosts efficiency
Solar PV panel friendly soft start and amperage or regulated controller	· Energy friendly ideal for Solar Power use
	· Protect the electronics and control system
	· Soft start operation
	· Solar PV compatible
Intelligent Voltage protection from 180 to 260v for longer component life and voltage protection	· Longer component life

Smart WIFI



Features of INVTR-S



DC Twin-Rotary Mitsubishi Inverter compressor of Mitsubishi.



EEV technology: 10 times flexibility to adjust the gas flow and increase the COP by up to 20% .SAVES \$\$\$



Reverse cycle defrosting with 4-way valve for quick & efficient defrosting



Twisted titanium heat exchanger: 40% higher efficiency than normal titanium heat exchanger.
25 YR Operates



For down to Air - 10°C Operation.

Model	IN-VTRS70	IN-VTRS90	IN-VTRS110	IN-VTRS130	IN-VTRS170	IN-VTRS210	IN-VTRS 280	IN-VTRS280S	IN-VTRS350
PERFORMANCE CONDITION: Air 27°C/ Water 27°C/ Humid. 80%									
Heating capacity (kW)	6.8	9.0	11.0	13.0	17.5	20.8	27.8	27.8	35.2
COP Range	14~7.1	14~7.1	14~6.9	14.5~7.0	15.6~6.9	14.6~7.0	15.8~7.2	15.5~7.1	15.5~7
Average COP at 50% Speed	10.4	10.4	10.2	10.4	10.9	10.9	11.0	10.7	10.5
PERFORMANCE CONDITION: Air 15°C/ Water 26°C/ Humid. 70%									
Heating capacity (kW)	4.9	6.5	7.5	8.9	12.3	14.3	18.8	18.8	24.2
COP Range	7.2~4.4	7.3~4.7	7.3~4.6	7.5~4.9	7.7~4.9	6.9~4.9	7.8~4.9	7.8~4.9	7.5~5.0
Average COP at 50% Speed	6.4	6.4	6.5	6.3	6.5	6.5	6.5	6.4	6.6
PERFORMANCE CONDITION: Air 35°C/ Water 28°C/ Humid. 80%									
Cooling capacity (kW)	3.5	4.4	5.3	6.2	8.0	10.0	11.7	11.7	16.1
TECHNICAL SPECIFICATIONS									
Advised pool volume (m ³) *	15~30	20~45	30~55	35~65	40~80	50~95	60~120	60~120	85~160
Operating air temperature (°C)	-10°C~43°C								
Compressor	Twin-rotary Mitsubishi DC compressor								
Heat exchanger	Twisted Titanium Heat Exchanger								
Power supply	230V 1Ph						400V 3Ph		
Rated input power (kW)	0.14~1.12	0.19~1.38	0.22~1.63	0.26~1.80	0.32~2.51	0.38~2.92	0.5~3.84	0.5~3.84	0.65~4.84
Input power at 50% Speed (kW)	0.38	0.51	0.58	0.70	0.95	1.10	1.45	1.47	1.84
Rated input current (A)	0.63~4.83	0.83~5.98	0.96~7.09	1.13~7.83	1.39~10.9	1.65~12.70	2.17~16.70	0.72~5.56	0.95~7.01
Maximum input current (A)	7.5	8.5	10	12	15	17	20	7	10.5
Power cord (mm ²)	3X1.5	3X2.5	3X2.5	3X2.5	3X4	3X4	3X6	5X2.5	5x2.5
Sound level at 1m dB(A)	36.5~46.0	36.8~46.2	36.6~47.9	40.1~48.7	41.1~51.8	38.9~52.2	41.5~52.9	41.5~52.9	40.6~52.6
Sound level 50% at 1m dB(A)	39.2	39.4	41.3	43.7	44.5	44.4	46.4	47	46.1
Sound level at 10m dB(A)	16.5~26.0	16.8~26.1	16.6~27.9	20.1~28.7	21.1~31.8	18.9~32.2	21.5~32.9	21.5~32.9	20.6~32.6
Advised water flow (lpm)	35~70	35~70	50~85	70~100	100~140	140~170	170~200	170~200	200~300
Water connection (mm)	48.3								
Net dimension LxWxH (mm)	890*443*658	890*443*658	890*443*658	890*443*658	1060*443*658	1060*443*758	1060*443*958	1060*443*958	1310*527*990
Net Weight (kg)	55	56	58	60	69	75	95	100	135
Qty per 20'FT / 40'HQ (sets)	66/144	66/144	66/144	66/144	60/144	44/144	44/96	44/96	32/64

Remarks: * The data above is only a reference, for specific data, please refer to the nameplate on the unit.

* Advised pool volume applies to a private pool with isothermal cover, from April to September.

* Imp: liter per minute

SMRT INVERTA Xtreme Klimate



25 Year WARRANTY
on Heat Exchanger



Stepless DC Inverter Twin Rotary Compressor

SMRT INVERTA features a stepless DC inverter and twin rotary compressor combined with EEV electronic Expansion Value and DC brushless fan motor. The speed adjustment as low as one hertz provides maximum energy saving performance and extreme silence.



Specially Designed Inverter Control System

SMRT INVERTA's control system is specially designed for pool heating management . in a constantly changing environment the system thermodynamically adjusts the heating capacity to maximise the free heating available in the surrounding environment air. Precise management and constant system adjustment results in most efficient heating at the lowest operating cost.



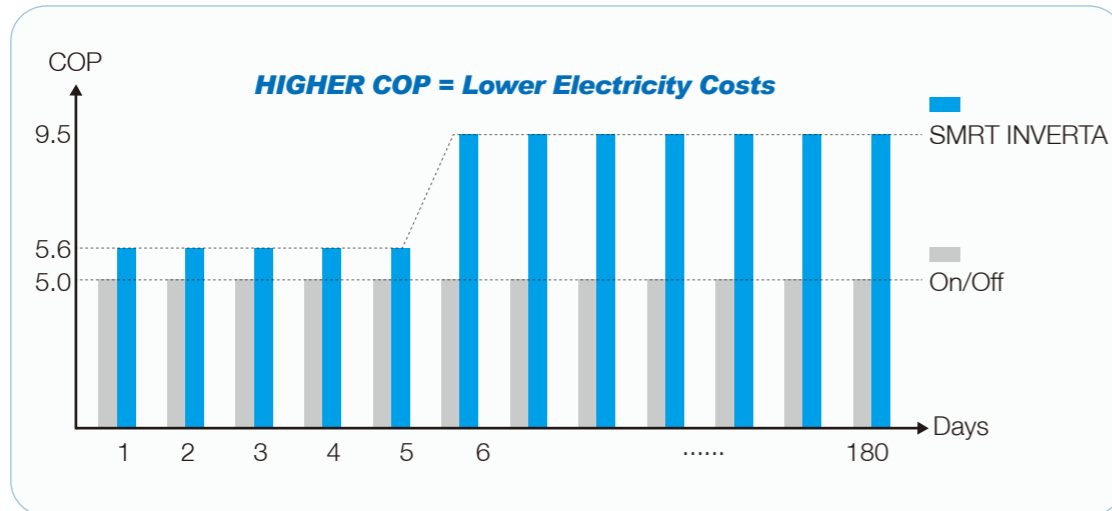
Intelligent Voltage and Component Protection

SMRT INVERTA voltage sensitive adaptors protect the system from voltage spikes and component damage . The soft start feature is PV solar Panel friendly firenly and also prolongs the life of all heat pump components and systems. The heat pump adjusts automatically to changing environmental conditions and adapts it operating speeds and energy loads accordingly.

1 1Kw Of Electricity Produces up to 13.5kw of Heat Average-cop 9.5 (90% Free Heat)

(air 27°C | water 27°C)

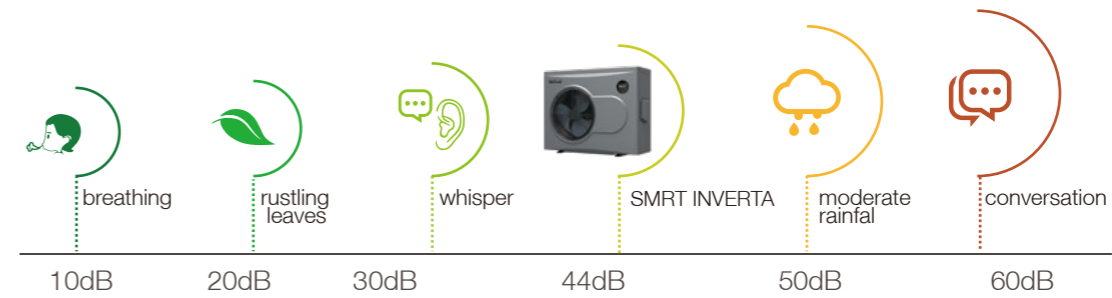
When maintaining pool temperature at 95% of set pool temperature Xtreme Klimate SMRT INVERTA runs at an average 50% capacity which results in the best energy saving performance and most silent pool heating. Its average-COP at 50% speed is 9.5 at air 27°C / water 27°C and 6.2 at air 15°C / water 26°C.



3 Silent Comfort at less than 44dB Acoustic Output

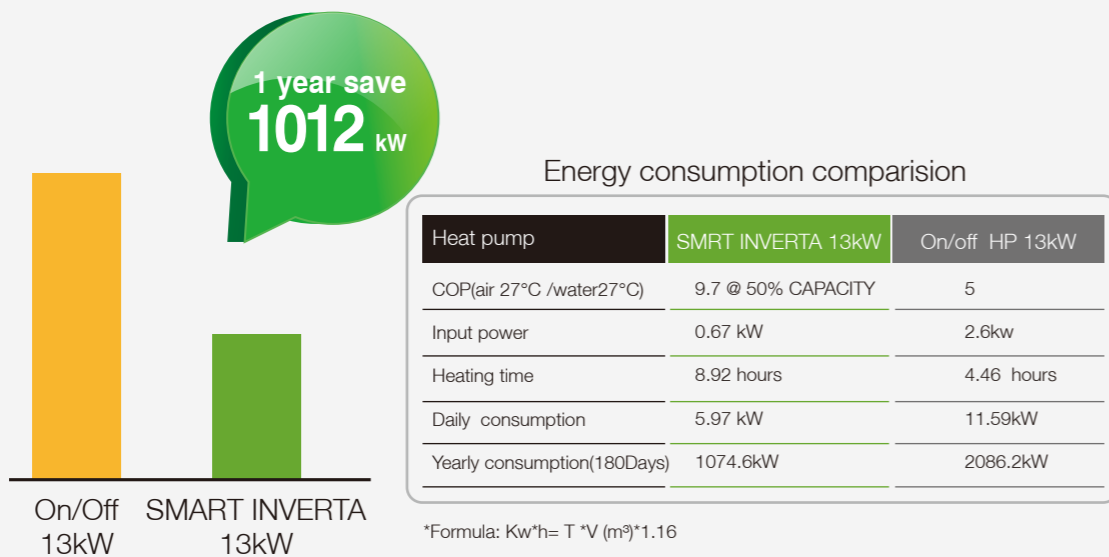
Thanks to the Twin rotary Compressor , stepless DC inverter compressor and DC brush-less fan motor, SMRT INVERTA runs very quietly and provides you a comfortable heating environment.

SMRT INVERTA has Silence and Boost mode.



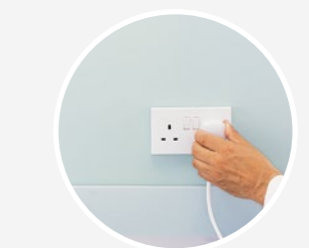
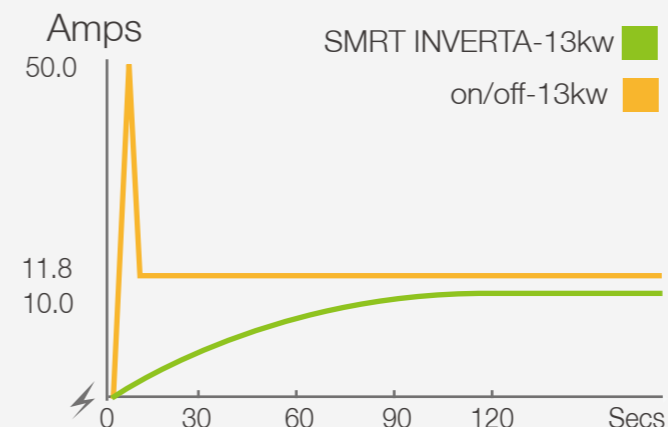
2 Double energy savings VS onloff Heat Pump

Using a 13kw SMRT INVERTA to heat up a 50 m³ pool by 1 °C, will save 1012 kW energy consumption per 1 degree temperature increase ,compared with an older style 13kw On/Off heat pump in one pool season . So you save 50% on the electricity cost or nearly double energy saving every year.



4 Soft start & wide voltage range control

With DC inverter twin rotary compressor, SMRT INVERTA starts from 0 Amps rising Slowly & steadily. There is no spike to the home electricity system. Smart Thermodynamic conversion, means the SMRT INVERTA can operate across a wide range of voltage range between 180V~260V. This system is PV Solar Panel compatible. Component electrical protection results in longer component life.



180~260V

Main Features and benefits SMRT INVERTA Xtreme Klimate

Up to 25 Year Warranty Best in class components	· Titanium twisted Heat 40% more effective than standard
	· Exchanger 25year warranty
	· Twin Rotary Inverter Compressor 5 Year warranty
	· Components 2 Year warranty
	· Factory technician training
	· Factory backed component warranty
	· Company distributed equipment to pool industry since 1997
	· Greatest VALUE for money
	· Composite ABS casing for harsh climate
	· Low total cost of ownership
· Best Lifetime Value for money	
TUV International Rheinland Tested	· Built to highest international quality standard, durable and reliable for Australian conditions
Highest operating efficiency in Class 1kW of Electricity produces up to13.5kW of heat	· 1kWh of electricity produces average 9.5 kW of heat
	· 90% free atmospheric heat
	· Lowest Running cost 50% less than standard Heat pump
	· Saves on power bills
Patented Side airflow and back discharge invisible fan extreme silence	· Quiet Heat Pump in Class
ABS Unique design	· Low Decibel Output under 44dB
	· Quiet as a home fridge
	· Anti-Corrosive durable materials
	· Blue fin evaporator
Low annual heating cost	· Intelligent control system saves more than 50% compared with on/ off heat pump
Full range intelligent inverter controller: Inverter control system synchronises compressor, DC fan motor pressure system for highest heat output at lowest cost	· Effective heating range
	· Low energy cost
	· Longer component life
	· PV Solar Panel Friendly

Electronic Expansion Valve manages refrigerant EEV technology	· Saves money and boosts operating efficiency with automatic refrigerant management
One touch easy to use touch controller with	· Easy to use, one touch
	· Flexible operating modes eg night mode
	· Booster and Silent mode
Standard Wi-Fi enabled control your swimming fun any time from anywhere	· Convenience, greater operating control anywhere
ECO sustainable R32 refrigerant	· Lower carbon footprint
	· More efficient higher output refrigerant
24/7 Hour Help Access Support	· 24 turnaround help service
Heating and cooling	· Versatile options to heat all year round
Auto defrost is standard	· Operates between -5 and 42 degrees C
Range of sizes available	· Optimal sizing saves money and boosts efficiency
Solar PV panel friendly soft start and amperage or regulated controller	· Energy friendly ideal for Solar Power use
Intelligent Voltage protection from 180 to 260v for longer component life and voltage protection	· Protect the electronics and control system
	· Soft start operation
	· Solar PV compatible
	· Longer component life

5 Smart Wi-Fi APP

With smart Wi-Fi App, you can see or control SMRT INVERTA anywhere any time.



SPECIFICATION: SMRT-INVERTA Xtreme Klimate

MORE FEATURES OF SMRT INVERTA



Xtreme Klimate Anti-corrosion, anti-UV ABS casing



EEV technology: 10 times flexibility to adjust the gas flow and increase the COP up to 20% higher.



Twisted titanium heat exchanger: 40% higher efficiency than normal titanium heat exchanger.



Extend the pool season with down to -5°C running



Hot gas defrosting with saginomiya 4-way valve for quick & efficient defrosting.



Model	SMRT-INV70	SMRT-INV90	SMRT-INV130	SMRT-INV160	SMRT-INV200	SMRT-INV240
PERFORMANCE CONDITION: Air 27°C/ Water 27°C/ Humid. 80%						
Heating capacity (kW)	7.0	9.0	13.0	16.0	20.2	24.2
COP Range	13~6.3	13.2~6.4	13.5~6.5	13.5~6.4	13.5~6.3	13.8~6.5
Average COP at 50% Speed	9.0	9.6	9.8	9.5	9.6	9.6
PERFORMANCE CONDITION: Air 15°C/ Water 26°C/ Humid. 70%						
Heating capacity (kW)	5.0	6.5	9.0	11.0	14.0	16.0
COP Range	6.8~4.6	6.9~4.5	7~4.7	7~4.5	7~4.5	7.2~4.8
Average COP at 50% Speed	6.3	6.3	6.4	6.2	6.2	6.4
PERFORMANCE CONDITION: Air 35°C/ Water 28°C/ Humid. 80%						
Cooling capacity (kW)	2.8	3.6	5.0	6.1	7.7	8.8
TECHNICAL SPECIFICATIONS						
Advised pool volume (m ³) *	15~30	20~45	35~65	40~75	50~90	60~110
Operating air temperature (°C)	-5°C~43°C					
Heat exchanger	Twisted Titanium Heat Exchanger					
Power supply	230V 1Ph					
Rated input power (kW)	0.20~1.09	0.26~1.44	0.34~1.91	0.44~2.44	0.56~3.11	0.60~3.33
Input power at 50% Speed (kW)	0.40	0.52	0.70	0.89	1.13	1.25
Rated input current (A)	0.85~4.73	1.13~6.28	1.50~8.33	1.91~10.63	2.43~13.53	2.61~14.49
Maximum input current (A)	6.5	9.5	12.5	17	19.5	20
Power cord (mm ²)	3x1.5	3x2.5	3x2.5	3x4	3 x 6	3x6
Sound level at 1m dB(A)	37.8~49.2	39.6~51.5	41.9~52.0	44.2~55.3	44.3~56.1	44.9~56.7
Sound level by 50% speed 1m dB(A)	41.8	44.8	47.5	47.7	48.6	49.1
Sound level at 10m dB(A)	17.8~29.2	19.6~31.5	21.9~32	24.2~35.3	24.3~36.1	24.9~36.7
Advised water flow (lpm)	35~70	50~85	70~100	100~145	130~170	170~200
Water connection (mm)	48.3					
Net dimension LxWxH (mm)	872*349*654	872*349*654	872*349*654	962*349*654	962*349*754	961x420x758
Net Weight (kg)	43	47	49	60	68	68
Qty per 20'FT / 40'HQ (sets)	102/216	102/216	102/216	90/198	60/198	52/165

Remarks:

*Advised pool volume applies to a private pool with isothermal cover, from April to September.

*The data above is only for reference. For specific data, please refer to the nameplate on the unit.

*lpm: liter per minute