

# INVERTER-PLUS

- COP up to 16 at Air 26°C/ Water 26°C/ Humidity 80%
  - COP up to 8 at Air 15°C/ Water 26°C/ Humidity 70%
- TÜV Rheinland certified



Energy	
Swimming Pool Heat Pump	
<b>Model</b>	<b>IPH45</b>
More Efficient	<b>A</b>
Less Efficient	
TÜV Rheinland Certified	
Heating output kw (Air 26°C / Water 26°C / Humidity 80%)	<b>17.5~4.4</b>
Input power kw	<b>2.5~0.33</b>
C.O.P	<b>6.6~16.1</b>
Heating output kw (Air 15°C / Water 26°C / Humidity 70%)	<b>11.5~2.8</b>
C.O.P	<b>4.5~8.2</b>
Europe Norm EN 14511-1 (According to FPP classification)	
<b>Sound Pressure</b> 1m dB(A) CVC certified according to EN 12102	<b>44.2~52.9</b>
<b>Sound Pressure</b> 10m dB(A)	<b>24.2~32.9</b>



EU efficiency : Class A



## What is normal inverter?

The traditional HP runs by a fixed speed, while the normal Inverter HP is functioned by several fixed compressor and fan speeds. It allows the HP to adapt to several different capacity.

When the heating demand is high, the inverter HP compressor and fan run by high speed. When the heating demand is low, the Inverter HP compressor and fan run by middle/low speed.

## INVERTER-PLUS — By Full-inverter-technology

Fairland Inverter-plus HP is the 1st full-inverter pool HP, powered by full-inverter compressor & full-inverter fan motor, which adjusts the compressor speed hertz by hertz, and the fan speed round by round. It matches pool intelligently with continuous & optimal efficiency. The Inverter-plus HP allows the heating capacity from 25% to 100% automatically according to pool demand, but most of the time, it only runs by middle & low speed for maximum efficiency.

When Fairland Inverter-plus runs by middle & low speed to maintain the pool temperature, the compressor and fan run super quietly. The Inverter-plus HP averagely runs by COP between 6.5 and 8.0 at Air 15°C/ Water 26°C/ Humidity 70% depends on pool size.

## EU-EFFICIENCY-CLASS A



Fairland Inverter-plus HP is the 1st inverter HP with full EU-Efficiency-Class A when maintaining the pool temperature.

The COP is 16.0~7.5 ( Air 26°C/ Water 26°C/ Humidity 80% )

Air 26°C/ Water 26°C/ Humidity 80%		IPH28	IPH35	IPH45	IPH55	IPH70	IPH70T	IPH100T
25% capacity	COP	16.1	16.0	16.1	16.0	16.2	16.1	16.4
	Sound Pressure level dB(A)(1m)	39.5	42.8	44.2	44.7	48.6	48.6	49.6
45% capacity	COP	12.7	12.6	12.8	12.6	12.9	12.8	13.0
	Sound Pressure level dB(A)(1m)	39.8	43.1	43.9	45.2	48.7	48.7	49.8
80% capacity	COP	7.9	7.8	7.6	7.5	7.7	7.6	7.8
	Sound Pressure level dB(A)(1m)	44.7	48.8	49.9	50.7	52.1	52.1	52.3
100% capacity	COP	6.8	6.7	6.6	6.4	6.6	6.5	6.7
	Sound Pressure level dB(A)(1m)	48.2	52.1	52.9	53.8	55.5	55.5	55.8

The COP is 8.0~5.0 ( Air 15°C/ Water 26°C/ Humidity 70% )

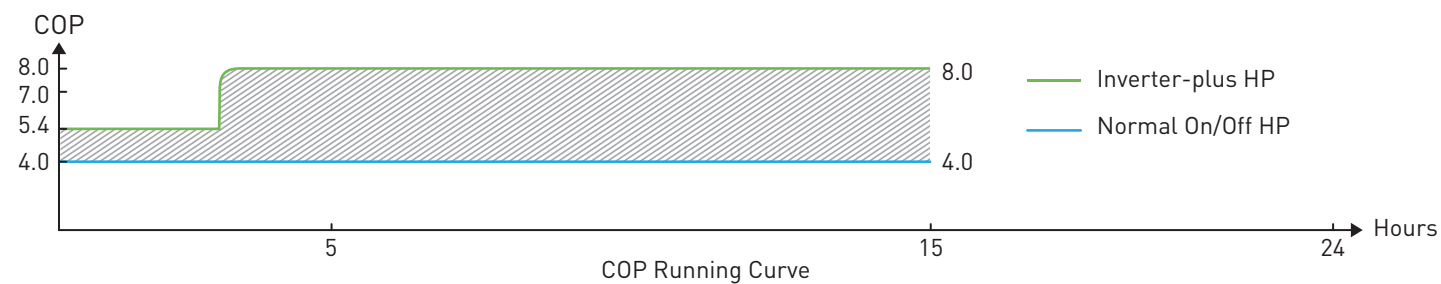
Air 15°C/ Water 26°C/ Humidity 70%		IPH28	IPH35	IPH45	IPH55	IPH70	IPH70T	IPH100T
25% capacity	COP	8.1	8.0	8.2	8.1	8.3	8.2	8.4
	Sound Pressure level dB(A)(1m)	39.5	42.8	44.2	44.7	48.6	48.6	49.6
45% capacity	COP	7.4	7.3	7.5	7.2	7.6	7.5	7.7
	Sound Pressure level dB(A)(1m)	39.8	43.1	43.9	45.2	48.7	48.7	49.8
80% capacity	COP	5.5	5.4	5.4	5.1	5.4	5.3	5.5
	Sound Pressure level dB(A)(1m)	44.7	48.8	49.9	50.7	52.1	52.1	52.3
100% capacity	COP	4.7	4.6	4.5	4.5	4.6	4.5	4.7
	Sound Pressure level dB(A)(1m)	48.2	52.1	52.9	53.8	55.5	55.5	55.8

## Why INVERTER-PLUS TECHNOLOGY?

- 1 70% higher COP than Normal On/Off HP
- 50% higher COP than Normal Inverter HP

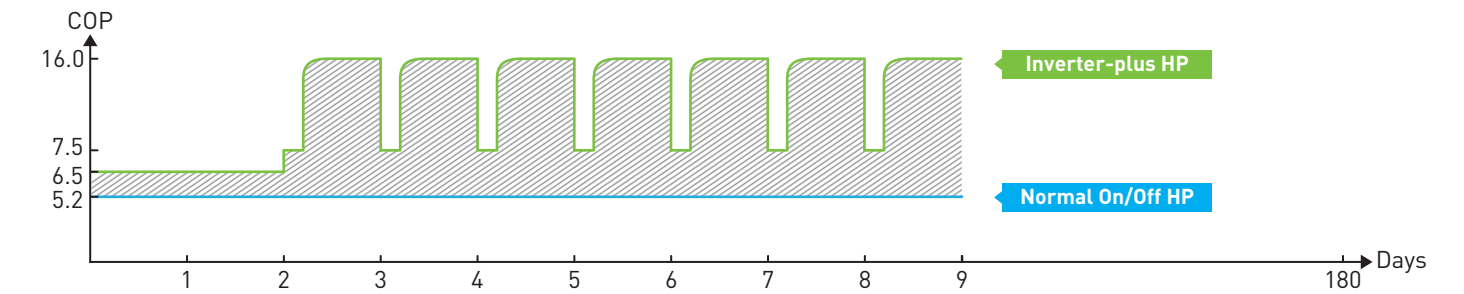
### COP curve in 15 hours' heating per day :

① Maintain 26°C water temperature for 45m<sup>3</sup> pool ② IPH45 ( Air 15°C / Water 26°C / Humidity 70% )



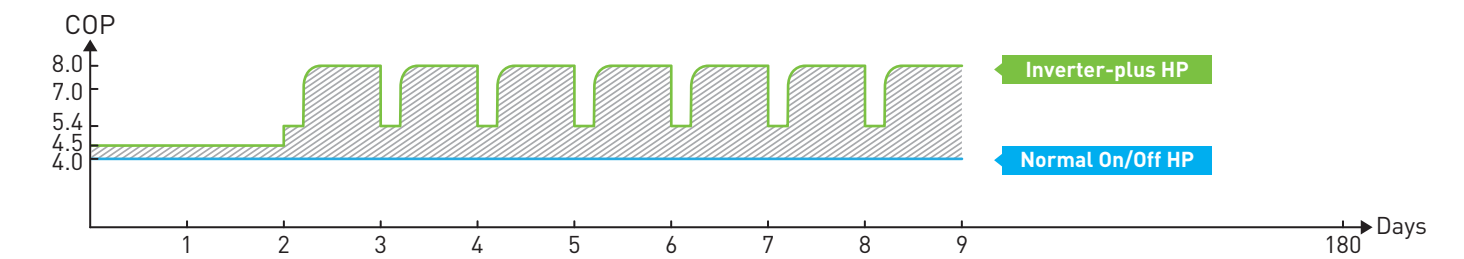
### ► Inverter-plus HP VS Normal On/Off HP ( in 6 months pool season)

Performance Condition: Air 26°C/ Water 26°C/ Humidity 80%



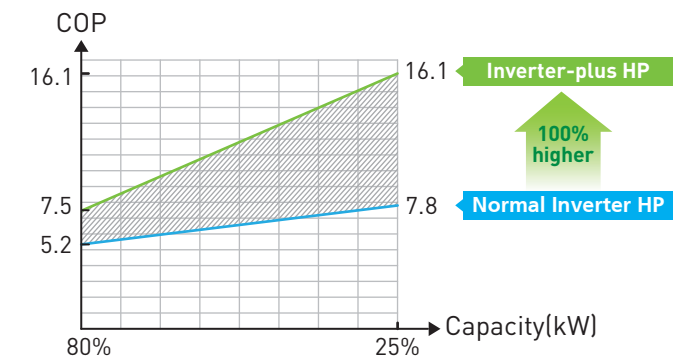
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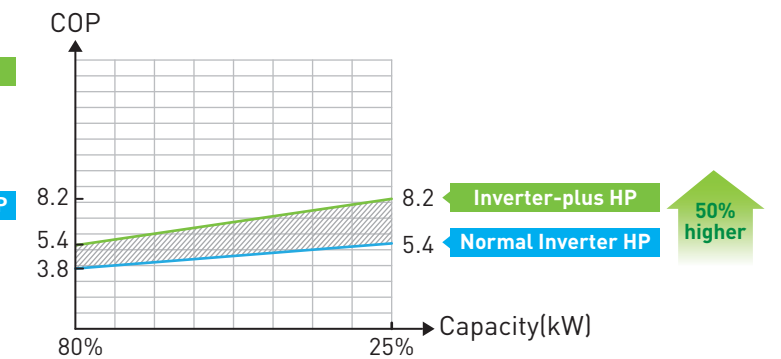


### ► Inverter-plus HP VS Normal Inverter HP (When Maintaining Pool Temperature)

Performance Condition:  
Air 26°C/ Water 26°C/ Humidity 80%



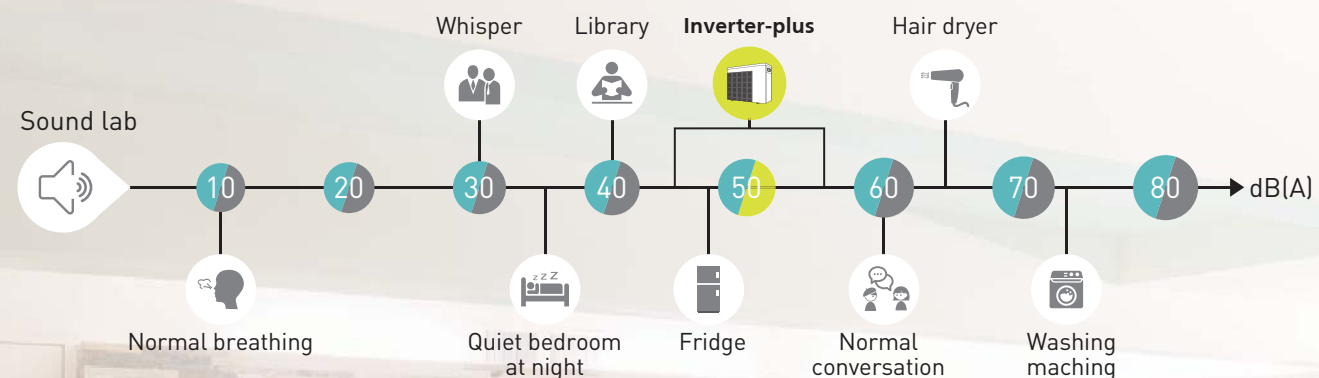
Performance Condition:  
Air 15°C/ Water 26°C/ Humidity 70%





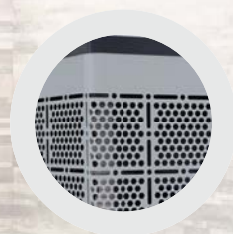
## 2 10 Times Quieter

Inverter-plus HP adopts super quiet Mitsubishi inverter compressor and full-inverter ventilation system, which offers you a 10 times quieter swimming environment when maintaining the pool temperature.



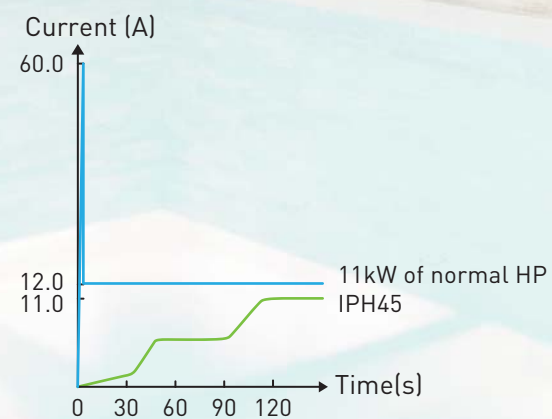
## 3 Aluminum-alloy Casing

Classic Aluminum-alloy casing and hidden screws, simple outlook, life-time anti-rusting.



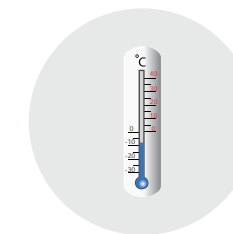
## 4 Soft Starter

When Inverter-plus HP turns on, the current will start from 0 A and slowly to rated current in 2 minutes. It will not affect the house electricity system. While the start current of normal on/off HP is 5 times of rated current, it is a burden to the electricity system.



## 5 Designed For Air -7°C

Inverter-plus HP is designed for air -7°C, which can maximize your pool season.



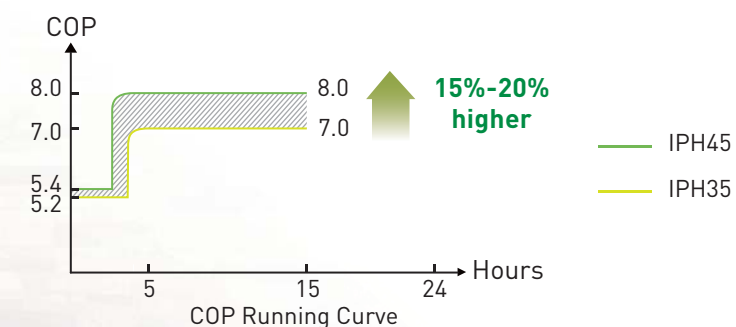
## 6 Silence Mode

At the beginning of the season, when the pool temperature reaches the set point, we suggest the customers to choose Silence Mode, so that the HP will run by 25%~80% capacity. Then the customer can benefit from the higher COP and enjoy more silence.

### THINK BIGGER

#### Performance Condition:

- ① Air 15°C / Water 26°C / Humidity 70%
- ② Maintain 26°C water temperature for 45m<sup>3</sup> pool



When choosing an INVERTER-PLUS, we suggest to choose a bigger model so that the HP can run longer by low speed, and bring more benefits:

- ▶ Longer silent running time
- ▶ 15-20% higher C.O.P averagely
- ▶ Quicker heating

### INVERTER-PLUS HEAT PUMP

Model NO.	Heating capacity A26/W26/H80% (kW)	Heating capacity A15/W26/H70% (kW)	COP A26/W26/H80%	COP A15/W26/H70%	Rated input power (kW)	Sound pressure @1m dB(A)	Sound pressure @10m dB(A)	Operating air temp	Advised pool volume (m <sup>3</sup> )
IPH28	11.5~2.8	7.5~1.9	16.1~6.8	8.1~4.7	1.7~0.22	39.5~48.2	19.5~28.2	-7°C	25~50
IPH35	13.5~3.4	9.5~2.3	16.0~6.7	8.0~4.6	2.1~0.25	42.8~52.1	22.8~32.1	-7°C	30~60
IPH45	17.5~4.4	11.5~2.8	16.1~6.6	8.2~4.5	2.5~0.33	44.2~52.9	24.2~32.9	-7°C	40~75
IPH55	21.5~5.4	14.5~3.4	16.0~6.4	8.1~4.5	3.33~0.44	44.7~53.8	24.7~33.8	-7°C	50~95
IPH70	28.2~7.1	18.3~4.6	16.2~6.6	8.3~4.6	4.0~0.58	48.6~55.5	28.6~35.5	-7°C	65~120
IPH70T	27.8~7.0	18.2~4.5	16.1~6.5	8.2~4.5	4.0~0.58	48.6~55.5	28.6~35.5	-7°C	65~120
IPH100T	36.5~9.2	24.2~6.2	16.4~6.7	8.4~4.7	5.2~0.79	49.6~55.8	29.6~35.8	-7°C	90~169

- \* The data at Air 15°C / Water 26°C / Humidity 70% is in accordance with the European standard EN14511.
- \* The values indicated are valid under ideal conditions: Pool covered with an isothermal cover, filtration system running at least 15 hours a day.
- \* Above data is subject to modification without notice.



## INVERTER-PLUS HEATPUMP SPECS

Model	IPH28	IPH35	IPH45	IPH55	IPH70	IPH70T	IPH100T
Advised pool volume (m <sup>3</sup> )	25-50	30-60	40-75	50-95	65-120	65-120	90-169
Operating air temperature (°C)	-7~43						
Performance Condition: Air 26°C/ Water 26°C/ Humidity 80%							
Heating capacity (kW)	11.5~2.8	13.5~3.4	17.5~4.4	21.5~5.4	28.2~7.1	27.8~7.0	36.5~9.2
Heating capacity (kW) in silence mode	9.2~2.8	10.6~3.4	14.0~4.4	17.0~5.4	22.1~7.1	22.0~7.0	29.2~9.2
C.O.P	16.1~6.8	16.0~6.7	16.1~6.6	16.0~6.4	16.2~6.6	16.1~6.5	16.4~6.7
C.O.P in silence mode	16.1~7.9	16.0~7.8	16.1~7.6	16.0~7.5	16.2~7.7	16.1~7.6	16.4~7.8
Performance Condition: Air 15°C/ Water 26°C/ Humidity 70%							
Heating capacity (kW)	7.5~1.9	9.5~2.3	11.5~2.8	14.5~3.4	18.3~4.6	18.2~4.5	24.2~6.2
Heating capacity (kW) in silence mode	6.0~1.9	7.6~2.3	9.0~2.8	11.5~3.4	14.9~4.6	14.8~4.5	19.5~6.2
C.O.P	8.1~4.7	8.0~4.6	8.2~4.5	8.1~4.5	8.3~4.6	8.2~4.5	8.4~4.7
C.O.P in silence mode	8.1~5.5	8.0~5.4	8.2~5.4	8.1~5.1	8.3~5.4	8.2~5.3	8.4~5.5
Rated input power (kW)	1.7~0.22	2.1~0.25	2.5~0.33	3.33~0.44	4.0~0.58	4.0~0.58	5.2~0.79
Rated input current (A)	7.4~0.95	9.1~1.1	10.9~1.4	14.5~1.9	17.4~2.5	5.8~0.8	8.0~1.1
Power supply	230V/1 Ph/50Hz					400V/3 Ph/50Hz	
Advised water flux (m <sup>3</sup> /h)	4~6	5~7	6.5~8.5	8~10	10~12	10~12	12~18
Sound pressure 1m dB(A)	39.5~48.2	42.8~52.1	44.2~52.9	44.7~53.8	48.6~55.5	48.6~55.5	49.6~55.8
Sound pressure 10m dB(A)	19.5~28.2	22.8~32.1	24.2~32.9	24.7~33.8	28.6~35.5	28.6~35.5	29.6~35.8
Heat exchanger	Titanium in PVC						
Casing	Aluminum-alloy						
Water pipe in-out spec (mm)	50						
Net dimension LxWxH (mm)	961×312×658	961×312×658	961×392×658	961×392×758	1090×420×960	1090×420×960	1160×530×960
Net weight (Kg)	48	50	58	68	89	89	108
Qty per 20'FT / 40'HQ (sets)	90/198	90/198	78/165	52/165	44/100	44/100	34/72

\* The data at Air 15°C/ Water 26°C / Humidity 70% is in accordance with the European standard EN14511.

\* The sound pressure was certified by CVC according to the European standard EN 12102.

\* The values indicated are valid under ideal conditions: Pool covered with an isothermal cover, filtration system running at least 15 hours a day.

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