# SOLARWISE

## MORE ENERGY EFFICIENT

# HEAT PUMPS

SOLAR WISE®

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# MOURA MINERS MEMORIAL POOL

# CASE STUDY

## DELIVERING EFFICIENCY TO AUSTRALIAN PUBLIC SCHOOLS

**A case study in the development of the Solarwise MEE Pool Heating System. Greatly increasing energy efficiency for commercial pool heating systems.**

The MEE pool heating system designed by Solarwise is the product of a Government Research and Development Grant to increase the energy efficiency in commercial pool heating systems and dehumidifiers.

The system has already been recommended by leading engineers for commercial projects throughout Australia and Moura Shire Council has chosen MEE to heat their pool using this system to save money and gain efficiency.

The complex has 2 large pools and has been part of the Moura Community for many years.

Did we mention that the system is Australian made for Australian conditions so the servicing?

## FEATURES:

- 800mm Diameter Fans for supreme cooling
- Easy and accessible servicing
- Separate lockable switchboard
- Treated Coils and Components inside cabinet for longer lasting parts
- Full Stainless Steel Case for a long lasting, protection system
- The most efficient heat pump on the market
- Made in Australia
- Far quieter than any competitor (10db Quieter)
- More Kw's with less power

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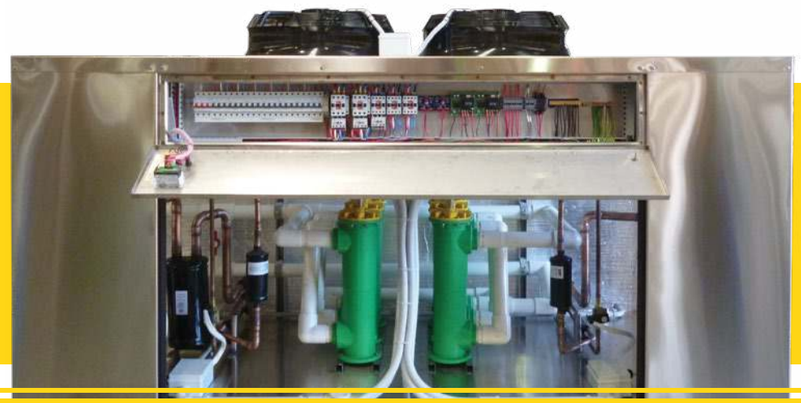
**THE SYSTEM TALKS TO ITSELF**

DIRECT DIGITAL CONTROL TO ELECTRONICALLY COMMUTATED FANS (EC FANS)



# INFORMATION

## LESS POWER USAGE WITH MORE EFFICIENCY

The compressor talks to the EC fan and the fans ramp way down, reducing energy consumption by around 28% and stopping the Compressor safety HP from cutting out. The fan will automatically achieve the desirable air flow. No changing water flow, no altering refrigerant. It works correctly all day and everyday for 365 days each year.

## This reduces air output by 50% and will generally result in 45-50% less current draw.

This compared to an EC fan which will be around 80% less current draw with no loss of efficiency. Using AC fans with VFD's is old technology.

## ASK ABOUT (COP) WHEN PURCHASING

Efficiency of pool heat pumps is usually expressed in COP (Coefficient of Performance). A heat pump with a COP of 4 means that the unit achieves 4 Kw of heating for every Kw of input power.

At 15 ºC air temperature and 27ºC pool temperature average heat pumps have a COP of 4 to 4.2

Australian made or good imported heat pumps have a COP of around 4.6

## COSTING EXAMPLE

As an example, the extra outlay on an MEE heat pump in Melbourne on a 1000m2 pool,

## Will pay for itself in less than 1.5 years.

This will save as much as $575,000 over the balance of 10 years at expected power increases.

## OUR PRODUCTS

### Model SW-383

Output: 52.18 kw + or - 3% - Input total: 10.048 kw (fans 833 watts) - COP 5.19

### Solarwise MEE Exclusive Heat Pump

Output: 53.40 kw + or - 3% - Input total average: 84.46 kw (fans 234 watts) - COP Average 6.32

# HEAT PUMP COMPARISON

## HEAT PUMP COMPARISON "WHAT ABOUT MEE"

Based on Data as at the 1st February 2018. Details will change -Refer QIS Solarwise

**"TAKE THE TIME TO LOOK A MEE AND WE BELIEVE THAT YOU WILL BE SOLARWISE"**

| Country of Manufacture | Australia | China | China | Australia |
|---|---|---|---|---|
| BRAND | Refer Solarwise | Refer Solarwise | Refer Solarwise | SOLARWISE MEE |
| Distributed By | Manufacture | Australian Distributor | Australian Distributor | QIS SOLARWISE |
| | Standard Technology | Standard Technology | Standard Technology | Inverter technology |
| COMPARE 200kW | Note: Performance will vary depending compressor type and fan Selection | | | |
| Closest size at 15C Ambient | 200kW | 200kW | 200kW | 200kW |
| OUTPUT @ 15 Ambient | 200kW | 166kW | 166kW | 214kW |
| PERFORMANCE-COP 15 Ambient | 4.6 | 5.14 | 5.14 | 6.33 |
| COP @ 12 Celcius | To assess | To assess | To assess | 5.97 |
| Expected Output @ 7 Celcius | To assess | 124 | 124 | 201.2kW |
| COP @ 7 Celcius | To assess | 4.21 | 4.21 | 5.63 |
| Expected Output @ 4 Celcius | 128kW | To assess | To assess | 183.2 |
| | | | | |

The Inverter MEE will work less often maximising life.

**The MEE is the recipient of two R & D grants - Australian Made-Support Australia.**

The MEE will work much better in lower temperatures maximising life and performance.

Other Heat pumps will struggle in lower temperatures.

The MEE operates in a Compressor safe operating envelope as the Compressor talks to the fan.

| Compressor | Copeland | Copeland or Sanyo | Copeland or Sanyo | Copeland |
|---|---|---|---|---|
| Compressor parts warranty | 2 years | 2 years | 2 years | 3 years |
| Compressor Labour warranty | 1 years | 1 years | 1 years | 2 years |
| Compressor/Fan Controls | NO | NO | NO | Direct Digital |

**The MEE unit connects the Inverter Fans to the Compressor safe and most effective envelope.**

| FAN | AXIAL | AXIAL | AXIAL | "MEE"INVERTER |
|---|---|---|---|---|
| The MEE INVERTER Fan is Electronically Computated.(EC) | | | | |
| Warranty Parts | 2 years | 2 years | 2 years | 5 years |
| Warranty Labour | 1 years | 1 years | 1 years | 2 years |
| FAN CONTROL | BASIC | Via Controls | Via Controls | INVERTER |
| | | Adjusts to Pressures | Adjusts to Pressures | (EC) |
| DEFROST | Hot Gas | Reverse Cycle | Reverse Cycle | Superior MEE |
| | often includes timer | Chinese Parts | Chinese Parts | Digital Control |
| | for passive defrost | | | |
| THE MEE UNITS USES COMPATIABLE EMMERSON/COPELAND-Components -Available Australia. | | | | |
| Expansion Device | Tx | Electronic | Electronic | Tx |
| | | Chinese Parts | Chinese Parts | |
| THE MEE UNITS USES COMPATIABLE EMMERSON/COPELAND-Components -Available Australia. | | | | |

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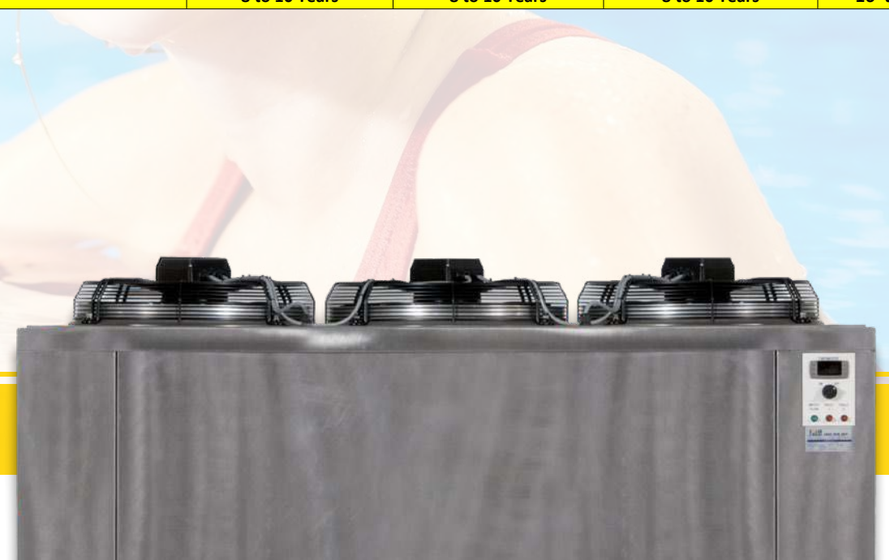
# WARRANTIES & FEATURES

| INVERTER | NO | NO | NO | YES |
|---|---|---|---|---|
| TECHNOLOGY | | | | |
| THE MEE UNITS A SEPARATE INVERTER FAN, SEPARATE COIL,SEPARATE CABINET, SEPARATE COMPRESSOR AND SEPARATE TRANDUCERS TO ALLOW ALL COMPONENTS TO INTERACT THROUGH COMPRESSOR AND FAN. THE MEE USES ADVANCED TECHNOLOGY THAT MAKES THE OTHER UNITS WANTING. | | | | |
| **HEAT EXCHANGER "Heart of the system"** | | | | |
| CASE | PVC-Source China | PVC-Source China | PVC-Source China | NYLON |
| | Softens 50 Celsius | Softens 50 Celsius | Softens 50 Celsius | Made In New Zealand |
| | 119.8 kPa @ 30 Celsius | 119.8 kPa @ 30 Celsius | 119.8 kPa @ 30 Celsius | Much More Robust |
| | 96.4 kPa @ 40 Celsius | 96.4 kPa @ 40 Celsius | 96.4 kPa @ 30 Celsius | |
| | | | | 688kPa at 98 Celsius |
| Parts | 1 year | 1 year | 1 year | 5 year |
| Labour | 1 year | 1 year | 1 year | 2 year |
| | | | | |
| HEAT EXCHANGE MATERIAL | Titanium Alloy | Titanium Alloy | Titanium Alloy | 99% Pure Titanium |
| Parts | 15 Years | 15 Years | 15 Years | 15 Years |
| | Not Against Cracking | Not Against Cracking | Not Against Cracking | Full Warranty |
| Labour | 2 Years | 2 Years | 2 Years | 5 Years |
| EVAPORATOR Parts warranty | 2 years | 2 years | 2 years | 5 years |
| | | | | fully Coated |
| **GENERAL FEATURES – MATERIALS USED** | | | WHAT ABOUT MEE? | |
| Case Protection of Components. | H/Ex | Compressor | Compressor | Fully |
| | Exposed | Heat/Ex | Heat/Ex | Insulated |
| | In Air Stream | Exposed | Exposed | Fully Protected |
| Case Material | Aluminium | Powder Coated | Aluminium | Stainless Steel |
| | | or Stainless steel | | No Dissimilar |
| | Dissinilar Metals. | Dissimilar Metals. | Dissimilar Metals. | Metals |
| Parts Warranty | 2 years | 2 years | 2 years | 15 years |
| | | | | |
| Case Frame | Steel | Combination | Steel | S/Steel |
| Parts Warranty | 2 years | 2 years | 2 years | 15 years |
| | | | Compared to others WHAT ABOUT "MEE" | Pays for itself in a couple of years and lasts twice as long |
| SYSTEM LIFE | 8 to 10 Years | 8 to 10 Years | 8 to 10 Years | 16 to 25 Years |



# MORE SOLARWISE PRODUCTS

Solarwise has been a valued local provider since 1979. We provide a range of products including those shown below to add value and comfort to your home or business.

Solarwise is trusted in the industry for the care we take, the wise advice we offer and the quality product we install. Over the country there are hundreds of thousands of happy customers with our products and we are proud to be of service to them.

## POOL HEATING

## HOT WATER


## SOLAR POWER

## AIR CONDITIONING


## INSULATION

## SKYLIGHTS

SOLAR WISE®

BRISBANE
Unit 3/25 Eurora Street
Kingston QLD 4114

TOLL FREE: 1800 805 287
Email: info@qis.com.au