Copper convection heaters:

Dual pipeline QMG models since 2009:
The “Run On Sun Australia” copper convection heaters are manufactured to our own strict quality specifications. A pure copper water tube is incased inside an aluminium heat exchanger, fixed inside a bone-white powder coated steel case. The water runs through high quality 18-mm diameter copper tube, this keeps the water clean without the use of additives. The convection heat output ranges between 1200 watts for the smallest model, through to 1900 watts for the largest model. This is achieved at a water temperature of 64-DegC. Our dual pipeline models have been working in many homes since 2009. Customers say they are pleasantly surprised by the heat output.

Four pipelines, PTD models new for 2014:
The new four pipeline models have just arrived, adding double the heat output energy compared to the dual pipeline models. These models have an extra air intake grill on the front towards the bottom of the case, to allow for convection to the upper pipeline heat exchanger. Three models are available with a heat output range between 900-3500 Watts at a water temperature of 64-DegC.

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Heat output in Watts</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMG600<em>800</em>120-mm Dual</td>
<td>800 x 120 x 600mm</td>
<td>1200</td>
<td>$380</td>
</tr>
<tr>
<td>QMG600<em>1000</em>120-mm Dual</td>
<td>1000 x 120 x 600mm</td>
<td>1500</td>
<td>$465</td>
</tr>
<tr>
<td>QMG600<em>1200</em>120-mm Dual</td>
<td>1200 x 120 x 600mm</td>
<td>1900</td>
<td>$550</td>
</tr>
<tr>
<td>PTD600<em>420</em>120-mm Four</td>
<td>420 x 120 x 600mm</td>
<td>900</td>
<td>$295</td>
</tr>
<tr>
<td>PTD600<em>1020</em>120-mm Four</td>
<td>1020 x 120 x 600mm</td>
<td>2400</td>
<td>$560</td>
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<tr>
<td>PTD600<em>1520</em>120-mm Four</td>
<td>1520 x 120 x 600mm</td>
<td>3500</td>
<td>$650</td>
</tr>
</tbody>
</table>

Polished stainless steel towel heaters:

Model-BLH12/360: $310
Height 910-mm. Width 360-mm. Depth 260-mm. Vertical tubes 32-mm diameter, 1.4-mm thick. Horizontal tubes 22-mm diameter, 1.2-mm thick.

Model-BXCH-13/500: $330
Height 980-mm. Width 500-mm. Depth 77-mm. Vertical tubes 38-mm diameter, 1.4-mm thick. Horizontal tubes 22-mm diameter, 1.2-mm thick.
1” Stainless steel and nickel coated brass manifold kits for floor heating and convection radiators:

**Stainless steel manifold kit for floor heating or convection radiators:**

**Hot water inlet manifold.**
Includes 4 flow control valves, air vent, drain port, a 1” ball valve and 4 pipe joiners which can be removed to expose 1/2” threads.

**Cool water return manifold.**
Includes 4 manual check valves, air vent, drain port, a 1” ball valve and 4 pipe joiners which can be removed to expose 1/2” threads.
Also includes stainless steel manifold joining brackets.
Cost for 4-ports $275

**Nickel coated brass Manifold kit for floor heating or convection heaters:**

**Hot water inlet manifold.**
Includes 4 flow control valves, air vent, drain port, 1” ball valve, temperature gauge and 4 to 9 x ½” circuit joiners.

**Cool water return manifold.**
Includes 4 manual check valves, air vent, drain port, a 1” ball valve, temperature gauge and 4 to 9 x 1/2” circuit joiners. Also includes stainless steel manifold joining brackets.
Cost for 4-ports $285
Cost for 6-ports $358
Cost for 9-ports $465
Hydronic heating cylinders

14-mm coils are 30-meters long, 19-mm coils are 45-meters long on all cylinders.

**Squat white powder coated stainless steel cylinder:**
*From $2000. Add $250 per 14-mm coil. Add $350 per 19-mm coil.*
340-litre capacity. Low to high pressure bearing capability.
1200-mm high x 700-mm wide.
2-mm thick 316 marine grade stainless steel inner.
0.5-mm powder coated steel outer.
60-mm high-density polyurethane insulation.
Choice of zero, one or two inner copper coils.
Choice of 14-mm or 19-mm diameter copper coils with 1-mm wall thickness.
Customised fittings for various heat sources.

**Tall white powder coated stainless steel cylinders:**
*From $650. Add $250 per 14-mm coil. Add $350 per 19-mm coil.*
100 to 500-litre capacity. Low to high pressure bearing capability.
2-mm thick 316 marine grade stainless steel inner.
0.5-mm powder coated steel outer.
60-mm high-density polyurethane insulation.
Choice of zero, one or two inner copper coils.
Choice of 14-mm or 19-mm diameter copper coils with 1-mm wall thickness.
Customised fittings for various heat sources.

**Highest quality 850-litre capacity all stainless steel:**
*From $3000. Add $250 per 14-mm coil. Add $350 per 19-mm coil.*
850-litre capacity. Low to high pressure bearing capability.
2000-mm high x 850-mm diameter.
2.5-mm thick 316 marine grade stainless steel inner.
0.6-mm stainless steel outer.
60-mm high-density polyurethane insulation.
Choice of 14-mm or 19-mm diameter copper coils with 1-mm wall thickness.
Customised fittings for various heat sources.

**Big 1000-litre low-pressure stainless steel cylinder.**
*From $2500. Add $250 per 14-mm coil. Add $350 per 19-mm coil.*
1000-litre capacity. Low-pressure cylinder.
1700-mm high x 1000-mm diameter.
From 0 to 100Kpa pressure bearing cylinder. (100Kpa = 10 meter head)
1.2-mm thick 316 marine grade stainless steel inner.
0.6-mm thick ribbed stainless steel outer.
Zero, one or two copper coils available.
Choice of 14-mm x 35-meter or 19-mm x 45-meter copper coils with 1-mm wall thickness.
Customised fittings for various heat sources.

Lower cost models with lower specs are available.
Examples of two 850-litre tank configurations:

**Tank Specifications: TYPE-A**
850-mm diameter x 2000-mm high.
Pressure tank inner, made from 2.5-mm thick 316L stainless steel.
Outer made from 0.6-mm stainless steel.
Top copper coil to be 40-meters long, 3/4".
Bottom copper coil to be 30-meters long 3/4".

**Tank Specifications: TYPE-B**
850-mm diameter x 2000-mm high.
Pressure tank inner, made from 2.5-mm thick 316L stainless steel.
Outer made from 0.6-mm stainless steel.
Top copper coil to be 30-meters long, 14-mm OD and 12-mm ID.
Run On Sun heat pipe collectors:

Includes a choice of:
- Flat to roof frame.
- 15-degree pitched frame.
- 30-degree pitched frame.

Six Run On Sun Australia 30-tube collectors in series, total of 180 tubes.

All evacuated tube collectors come with a heavy-duty 2-mm thick stainless steel frame and a stainless steel manifold housing. (No dissimilar metals)
58-mm x 1800-mm Tri-tubes with a heavy-duty 2-mm thick glass sidewall. (32-mm hail rating)

12-tube collector $820
18-tube collector $1100
24-tube collector $1380
30-tube collector $1620

Special prices for 3 or more collectors.

We stock 12, 18, 24 and 30 tube heat pipe collectors, the 30-tube collectors are the standard for hydronic heating and are normally connected in series. The quantity needed will depend on your application, generally speaking, allow one tube per 10-litres of water storage.

More can be used when a summer heat dump application is used such as thermal mass ground storage, this can dissipate and store the extra heat that is generated in summer for later use in winter.

Tubes can also be covered with shade cloth during summer to back them off.
The Run On Sun Australia P/L heat pipe collectors have passed all Australian and New Zealand standards testing and are certified by Global Mark.

It is a requirement that all solar collectors and solar water heaters sold in Australia and New Zealand that are connected to a potable water supply must carry a Certified product identification number which can be checked on the Global Mark certified product register.

So many non-Certified low cost Chinese brands are showing up in the Australian market with no certification. The copper content and lead content are unknown, these may cost less, but low purity copper is associated with pin-hole corrosion making them false economy.

The Run On Sun heat pipe collectors are high quality and are not limited to the Australian standards. The same collectors are rebadged under different brands that have full European, Canadian, US and UK certification.

EN-12975-2: 2006 European solar keymark, mandatory for all solar collectors sold throughout Europe. Tested by TUV Rhineland and Certified by DIN CERTICO.

SRCC performance testing for the United States. Certified by SRCC.


AS/NZS-4020 Products in contact with potable water. Certified by Global Mark.

AS/NZS 2712-2007
ID No: 100864
Run On Sun Australia
Pumps for solar circuits or hydronic heating

Grundfos solar-20 low energy hot water circulation pump used for circulating water through a maximum of three 30-tube collectors, or up to 4 convection heaters.

- Speed 1 = 20 Watts, speed 2 = 25 watts, speed 3 = 30 watts.
- 2-years warranty $245

12-volt DC hot water pumps for a single heat pipe collector can be used for hydronic heating circuits.

- TS5 5-watt pump with a 12-month warranty $120.
- TS5 15-watt pump with a 12-month warranty $140.

These pumps can work from a solar panel, regulator and a battery. Pump controllers are available.

Large power 3-speed pump.

- 2" bore with 1 .75" unions, used for multiple floor heating circuits.
- Stainless steel body. Big flow capabilities.
- Speed-1 = 135 Watts, speed-2 = 190 Watts, speed-3 = 245 Watts.
- 5-years warranty $295

Low energy 3-speed hot water circulation pump used to circulate the hot water from the evacuated tube collectors to the cylinder.

- Can be used on smaller floor heating circuits and convection heater circulation.
- Tested by Run On Sun to Australian standard AS/NZS4020
- Speed-1 = 40 Watts, speed-2 = 60 Watts, Speed-3 = 85 Watts.
- 5-years warranty $170

Extra power 3-speed hot water circulation pump used to circulate the hot water through medium sized floor-heating circuits.

- Tested by Run On Sun to Australian standard AS/NZS4020
- Speed-1 = 46 Watts, speed 2 = 80 Watts, speed 3 = 100 Watts.
- 5-years warranty $180
Run On Sun Australia Pty Ltd
Web: www.runonsun.com.au  E-mail: andrew@runonsun.com.au  Phone: (02) 6734 6322

Pump controllers

**Premium Aestiva:**
Pre-wired controller for solar circuit pump. Ready to plug in and work. Designed in Australia. Outdoor waterproof rating. $220

**SR208C Controller:**
Controller for solar circuit pump. Not pre-wired. Comes with all sensors. $150

**SR868C Controller:**
Two part controller for solar circuit pump, with one extra sensor that can turn a second pump on at a preset temperature and off at a preset temperature. Not pre-wired. Comes with all sensors. Plug and cord included. $195

**SR988C1 Controller:**
Multi function controller with many features. Ideal for complex hydronic heating circuits. 2 x Pt1000 sensors. 10 x NTC10K sensors. 9 relays for circulation pumps or 3-way magnetic valves. 1 relay for auxiliary heating. $450

**ROSA-100 and ROSA-200 PV pump controllers.**
ROSA-100 Connects to a solar panel for the power source. ROSA-200 Connects to a solar panel and a battery. This controller incorporates freeze protection for the solar collector outside the hours of operation for a solar panel.
ROSA-100: 5-watt pump controller with a 5-Watt solar panel $160
ROSA-100: 15-watt pump controller with a 15-Watt solar panel $175
ROSA-200: 5-watt pump controller, 7Ah battery, 10-Watt solar panel $195
ROSA-200: 15-watt pump controller, 7 Ah battery, 20-Watt solar panel $210
A 10-circuit manifold distributor becomes part of the unfinished plant room and connects all of the floor heating circuits for individual control.

The fully insulated summer heat dump managed to raise the ground temperature to 70-DegC. The role is reversed in winter, bringing the heat stored in this thermal mass back to the 500-litre cylinder when needed.

Run On Sun Australia supplied the tank, pumps and evacuated tube collectors.

The pipes leading to the summer heat dump, before the manifold distributors are set up inside the plant room.

The plant room showing a Run On Sun 500-litre duel coil tank with pumps, gas booster, house heating circuits and heat dump circuit.
Inside the plant room showing the Run On Sun solar collector pump.

Run On Sun large bore pump driving the floor circuits.

Run On Sun evacuated tube collectors, the main heat source for the whole project.

Run On Sun large bore pump driving the ground thermal mass circuits.

Cistern to keep the 500-litre cylinder topped up.

Finished project.