



Heat Pumps for Decarbonisation

Enabling a True Zero Carbon economy

GHP Series Heat Pumps

Glaciem Heat Pumps for decarbonisation

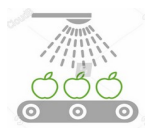
Many businesses are moving towards net zero carbon emissions through their Environmental, Social, and Governance (ESG) programs. Sourcing renewable assets is an excellent start to any transition project, however further investigation typically reveals the next largest source of CO₂ emissions is the use of gas for space heating and consumable hot water. Design criteria for heating and cooling technologies have changed. Simply 'meeting the heating and cooling demand', with little regard for environmental impact, is no longer the measure of suitable refrigeration.

GHP Series Heat Pumps have been developed to provide commercial HVAC operators, building owners and industrial heat users with a technology that supports their drive to decarbonisation. The systems eliminate the need for gas fired heating and allow for the transition to electricity.



Applications

A Glaciem GHP Heat Pump is the ideal replacement for traditional heating and cooling across many applications. Example applications :



Process Heating and Cooling

- Refrigeration
- Hot water



Food Processing

- Refrigeration
- Hot water



Leisure Centres

- HVAC (Space heating & cooling)
- Pool Heating
- Hot Water



Building HVAC

- Chilled Water / Glycol
- Hot water

GHP Series Heat Pumps

Build quality

Transcritical CO₂ systems operate at high pressures and demand precise control. All Glaciem products are built with premium quality components.

Glaciem systems use Bitzer transcritical CO₂ compressors, Danfoss valves and IFM instrumentation, AlfaLaval heat exchangers and Henry Technologies vessels and valves. We are supported by a strong network of valued suppliers both in Australia and internationally.

All Glaciem heat pumps are supplied complete with factory wiring in accordance with Australian standards. Each system's Electrical control panel includes a Schneider PLC and HMI with built in webserver, connectivity and remote management. The PLC is preprogrammed with Glaciem's proprietary system control logic.



Largest CO₂ Heat Pump in the Southern Hemisphere —Montagues Apple Processing

Glaciem Cooling Technologies

Building M - University of South Australia
Mawson Lakes Campus
SA AUSTRALIA 5095

www.glaciemcooling.com

Andrew Weller
+61 419 900 363

andrew.weller@glaciemcooling.com



GHP Series Heat Pump (Small Size) Specifications—Water & Glycol Chillers

| Type | Heat Pump: Water Heater and Water Chiller | |
|---|--|-------|
| Model | GCT-HPGC-002616 | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | 6 °C | |
| Hot water supply temperature | 80 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 388 |
| | Cooling capacity (kW) | 285 |
| | Power consumed (kW) | 94.8 |
| | Combined COP | 7.10 |
| Water inlet temp (20 °C) | Heating capacity (kW) | 378 |
| | Cooling capacity (kW) | 274 |
| | Absorbed power (kW) | 94.8 |
| | Combined COP | 6.88 |
| Water inlet temp (30 °C) | Heating capacity (kW) | 444 |
| | Cooling capacity (kW) | 308 |
| | Absorbed power (kW) | 127.7 |
| | Combined COP | 5.89 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 425 |
| | Cooling capacity (kW) | 281 |
| | Absorbed power (kW) | 135.7 |
| | Combined COP | 5.20 |
| Water inlet temp (60 °C) | Heating capacity (kW) | 263 |
| | Cooling capacity (kW) | 129 |
| | Absorbed power (kW) | 129.3 |
| | Combined COP | 3.03 |
| Maximum current (Amp) | 304 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL3000xH2200 | |
| Product mass/ Operating weight (kg) | 2641/2751 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Brazen Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Brazen plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |

| Type | Heat Pump: Water Heater and Glycol Chiller | |
|---|--|-------|
| Model | GCT-HPGC-002614 | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | -4°C | |
| Hot water supply temperature | 90 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 301 |
| | Cooling capacity (kW) | 201 |
| | Power consumed (kW) | 95.8 |
| | Combined COP | 5.24 |
| Water inlet temp (25 °C) | Heating capacity (kW) | 335.3 |
| | Cooling capacity (kW) | 219.4 |
| | Absorbed power (kW) | 110.6 |
| | Combined COP | 5.02 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 355.4 |
| | Cooling capacity (kW) | 214 |
| | Absorbed power (kW) | 135 |
| | Combined COP | 4.22 |
| Water inlet temp (55 °C) | Heating capacity (kW) | 233.7 |
| | Cooling capacity (kW) | 121.9 |
| | Absorbed power (kW) | 108.5 |
| | Combined COP | 3.28 |
| Maximum current (Amp) | 266 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL3000xH2200 | |
| Product mass/ Operating weight (kg) | 2641/2751 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Brazen Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Brazen plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |

GHP Series Heat Pump (Medium Size) Specifications—Water & Glycol Chillers

| Type | Heat Pump: Water Heater and Water Chiller | |
|---|--|-------|
| Model | GCT-HPGC-004616-CW | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | 6 °C | |
| Hot water supply temperature | 80 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 746 |
| | Cooling capacity (kW) | 548 |
| | Power consumed (kW) | 182.1 |
| | Combined COP | 7.11 |
| Water inlet temp (20 °C) | Heating capacity (kW) | 724 |
| | Cooling capacity (kW) | 526 |
| | Absorbed power (kW) | 182.1 |
| | Combined COP | 6.86 |
| Water inlet temp (30 °C) | Heating capacity (kW) | 840 |
| | Cooling capacity (kW) | 585 |
| | Absorbed power (kW) | 238.5 |
| | Combined COP | 5.97 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 810 |
| | Cooling capacity (kW) | 537 |
| | Absorbed power (kW) | 255.8 |
| | Combined COP | 5.27 |
| Water inlet temp (60 °C) | Heating capacity (kW) | 521 |
| | Cooling capacity (kW) | 259 |
| | Absorbed power (kW) | 252.5 |
| | Combined COP | 3.09 |
| Maximum current (Amp) | 471.8 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL4800xH2200 | |
| Product mass/ Operating weight (kg) | 4136/4294 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Braze Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Braze plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |

| Type | Heat Pump: Water Heater and Glycol Chiller | |
|---|--|-------|
| Model | GCT-HPGC-004616—G | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | -4°C | |
| Hot water supply temperature | 90 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 553 |
| | Cooling capacity (kW) | 367 |
| | Power consumed (kW) | 177 |
| | Combined COP | 5.2 |
| Water inlet temp (25 °C) | Heating capacity (kW) | 615 |
| | Cooling capacity (kW) | 402 |
| | Absorbed power (kW) | 204.4 |
| | Combined COP | 4.98 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 652 |
| | Cooling capacity (kW) | 389 |
| | Absorbed power (kW) | 251.5 |
| | Combined COP | 4.14 |
| Water inlet temp (55 °C) | Heating capacity (kW) | 392 |
| | Cooling capacity (kW) | 203.9 |
| | Absorbed power (kW) | 182.3 |
| | Combined COP | 3.27 |
| Maximum current (Amp) | 466 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL4800xH2200 | |
| Product mass/ Operating weight (kg) | 4136/4294 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Braze Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Braze plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |

GHP Series Heat Pump (Large Size) Specifications—Water & Glycol Chillers

| Type | Heat Pump: Water Heater and Water Chiller | |
|---|--|-------|
| Model | GCT-HPGC-006626—CW | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | 6 °C | |
| Hot water supply temperature | 80 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 1102 |
| | Cooling capacity (kW) | 808 |
| | Power consumed (kW) | 269 |
| | Combined COP | 7.10 |
| Water inlet temp (20 °C) | Heating capacity (kW) | 1073 |
| | Cooling capacity (kW) | 769 |
| | Absorbed power (kW) | 280.3 |
| | Combined COP | 6.57 |
| Water inlet temp (30 °C) | Heating capacity (kW) | 1214 |
| | Cooling capacity (kW) | 847 |
| | Absorbed power (kW) | 341.9 |
| | Combined COP | 6.03 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 1205 |
| | Cooling capacity (kW) | 796 |
| | Absorbed power (kW) | 381.5 |
| | Combined COP | 5.25 |
| Water inlet temp (60 °C) | Heating capacity (kW) | 773 |
| | Cooling capacity (kW) | 376 |
| | Absorbed power (kW) | 382.3 |
| | Combined COP | 3.01 |
| Maximum current (Amp) | 723.5 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL5400xH2200 | |
| Product mass/ Operating weight (kg) | 5768/6067 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Braze Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Braze plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |

| Type | Heat Pump: Water Heater and Glycol Chiller | |
|---|--|-------|
| Model | GCT-HPGC-006626—G | |
| Power supply | 3 Phase 400 V AC 50HZ | |
| Chilled water supply temperature | -4°C | |
| Hot water supply temperature | 90 °C | |
| Performance | | |
| Water inlet temp (15 °C) | Heating capacity (kW) | 837 |
| | Cooling capacity (kW) | 555 |
| | Power consumed (kW) | 267.9 |
| | Combined COP | 5.2 |
| Water inlet temp (25 °C) | Heating capacity (kW) | 930 |
| | Cooling capacity (kW) | 607.9 |
| | Absorbed power (kW) | 306.5 |
| | Combined COP | 5.02 |
| Water inlet temp (40 °C) | Heating capacity (kW) | 1000 |
| | Cooling capacity (kW) | 599 |
| | Absorbed power (kW) | 383.9 |
| | Combined COP | 4.17 |
| Water inlet temp (55 °C) | Heating capacity (kW) | 648 |
| | Cooling capacity (kW) | 337 |
| | Absorbed power (kW) | 300.5 |
| | Combined COP | 3.28 |
| Maximum current (Amp) | 709 | |
| Indicative Outer dimensions (mm), can be purpose fit | W2000 xL5400xH2200 | |
| Product mass/ Operating weight (kg) | 5768/6067 | |
| Design pressure (bar) | High pressure 150, Low pressure 80 | |
| Compressors | Bitzer semi-hermetic reciprocating compressors | |
| Heat Exchangers (water heating and flash gas superheater) | Braze Plate Heat exchangers, 130 bar allowable pressure | |
| Evaporators (Chilled water) | Braze plate heat exchangers, 60 bar allowable pressure | |
| External water connections | Solder. Other options available on request | |
| Electrical | 1x Electrical Control Panel & Wiring 1x Schneider PLC with HMI & Modbus Comms | |



Glaciem Cooling Technologies

Building M - University of South Australia
Mawson Lakes Campus
SA AUSTRALIA 5095

www.glaciemcooling.com

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