



hawco<sup>o</sup>

## Supplying Quality Components for Air Source & Ground Source Heat Pumps

CAREL

**FRIGOMEC**  
SOLUTIONS FOR HVAC/R SYSTEMS

HITACHI

**MW**  
曼昆威

**NGT**

**SCI**  
SIAM COMPRESSOR  
INDUSTRY CO., LTD.

SANHUA

**ZED**  
THERMOPLASTIC TUBING AND HOSES

**ZILMET**  
Eco by Rohm and Haas

**50**  
1973  
2023

+44 (0)1483 869 070 sales@hawco.co.uk

[www.hawco.co.uk/heatpumps](http://www.hawco.co.uk/heatpumps)

# We recommend components that best match your application

## PRODUCTS WE SUPPLY INCLUDE:

- BIMETALLIC THERMOSTATS
- ELECTRONIC EXPANSION VALVES & CONTROLLERS
- FILTER DRIERS
- FOUR-WAY REVERSING VALVES
- INVERTER DRIVES
- LINE COMPONENTS
- MICRO-CHANNEL & BRAZED PLATE HEAT EXCHANGERS
- PRESSURE SWITCHES & TRANSDUCERS
- SCROLL & ROTARY COMPRESSORS
- SOLENOID VALVES & CHECK VALVES
- THERMOPLASTIC TUBING



By supporting us throughout the design process, the Hawco team helped us develop new heat pump models that are capable of delivering greater efficiency, dependability and competitiveness.

MARCIN KOWACZ, HEAD OF DESIGN

 **IGLOO**  
since 1986



# Design for Maximum Efficiency

Heat pump performance begins with your choice of compressor.

We recommend inverter-driven scroll and rotary compressors from SCI, an innovative Thai producer wholly owned by Mitsubishi Electric, as well as scroll compressors from Hitachi, the original pioneers of scroll technology.

These compressors are approved for use with two different inverter drives, offering plenty of design options.

Even greater gains can be achieved in overall product performance with the addition of a super-efficient micro-channel or brazed plate heat exchanger to your system.

## SCROLL & ROTARY COMPRESSORS



### Inverter-Driven Compressors for Natural and A2L Refrigerants



- Scroll compressors with A+++ efficiency and patented FCMT technology to cut energy use
- ATEX terminal separated from compressor terminal
- Single phase input scroll compressors with capacity from 1.5kW to 17.5kW
- Single phase input rotary compressors with capacity up to 11.1kW

### HITACHI

- Three phase input models with 24.4kW and 34kW capacity



ATEX Approval



Low GWP & Natural Refrigerants



Quality Certification

## INVERTER DRIVES



### Different Inverter Control Options For Design Flexibility



- Optidrive Coolvert controller specially designed for BLDC compressors
- Full functionality from simple programs to advanced features



- Dedicated inverter drive for full plug-and-play compatibility with SCI compressors



Easy to Program Options

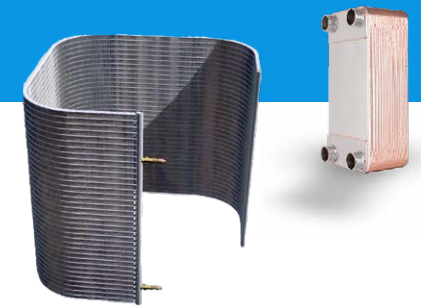


Advanced Functions Available



Designed for Compatibility

## HEAT EXCHANGERS



### Micro-Channel Heat Exchangers for High Efficiency

#### SANHUA

- Small, lightweight and compact MCH design with 30% reduced refrigerant charge
- Horizontal flow provides excellent heat transfer

### Brazed Plate Heat Exchangers for Condensers & Evaporators

#### SANHUA

- Patented asymmetric plate design for average 25% lower water side pressure drop



- Compact and durable stainless steel design



Durable Construction



Designed for Efficiency



Quality Certification

# Build for Reliability

With access to an extensive portfolio of specialist cooling components, we can help you complete every aspect of your system design.

We also understand how important it is for your customer that their heat pump operates faultlessly for years to come.

That is why we will only recommend components that meet our high expectations for design and quality, and which have been tested and approved to stringent international standards.

## ELECTRONIC EXPANSION VALVES & CONTROLLERS



### Accurate & Efficient Two-Way Superheat Control

## SANHUA

- Stepper EEVs with cooling capacity from 4kW to 109kW
- Optimised flow path design for noise reduction
- Available with dual independent EEV controller with advanced PID algorithm
- Includes RS485 port for communications

## CAREL

- Hermetic valve with stepper motor designed for cooling capacity up to 40kW
- Premium grade materials and quality production for high precision



Compatible with A2L & natural refrigerants



Extensive product testing



Innovative technologies

## FOUR-WAY REVERSING VALVES & SOLENOID VALVES



### Dependable Switching Between Cooling and Heating Modes

## SANHUA

- Designed for 4kW to 650kW capacity and 45 bar coil
- Multiple design options
- Choice of lead wires or spade (Faston) electrical connections



### Solenoid Valves in a Choice of 15 Sizes

- Solder ODF connections from 1/4" to 5/8"
- AC or DC voltage up to 45 bar
- 90° or straight shape



Compatible with A2L & natural refrigerants



International Certification

## PRESSURE SWITCHES & TRANSDUCERS



### Multiple Pressure Control Options with ATEX Approval

## SANHUA

- Auto-reset pressure switches (0.9 to 35 bar) and pressure sensors up to 60 bar

## CAREL

- Ratiometric pressure sensor with stable output signal



- Value ATEX-approved option for cost-conscious applications



ATEX-approved options



International Certification

## LINE COMPONENTS



Complete Range for Use with R290 and A2L Refrigerants

**SANHUA** **denaline**  
refrigeration and air conditioning equipment



- Piston & magnetic check valves
- Service and check valves
- Sight glasses
- Mufflers
- Single and bi-flow filter driers
- Accumulators, oil separators and liquid receivers



International Certification

## Assured Safety

Manufacturers can ill afford to compromise when it comes to product compliance. That's why we recommend safety cutouts constructed to the highest quality by Japanese producer NGT Controls for overheat protection.

Other components, such as thermoplastic tubing, must meet stringent international standards to eliminate any refrigerant leaks. This has the additional benefit of assisting with product certification.

Finally, we can advise your design team on ways to customise your components to make them easier to integrate into your production process, saving you time and money.

## BIMETALLIC THERMOSTATS FOR OVERHEAT PROTECTION



Overheat Protection for Back Up Heaters and Drain Pan Heaters



- IP67 waterproof auto reset thermostats
- Available with pipe clips for accurate positioning



- ATEX-approved explosion-proof type with sealing around sensing cap and terminals



ATEX-approved options



International Certification

## THERMOPLASTIC TUBING CRANKCASE HEATERS & PROBES



Thermoplastic Tubing Designed for Refrigerant & Capillary Lines



- Quicker and easier to install than traditional copper tube
- Robust and flexible option
- Available with pre-installed customised fittings to speed up production assembly
- Ideal for compact spaces - and resistant to unit vibration to minimise refrigerant leaks

**Standard and Bespoke Temperature Sensors and Heaters**

- Customisable temperature sensors for defrost
- Crankcase and drain pan heaters



International Certification

# Who We Work With

## R290 Scroll Compressors for Polish Heat Pumps

**We supply 18,000 scroll compressors each year to Igloo, a major air source heat pump manufacturer based in Stary Wiśnicz, Poland.**

The vertical, inverter-driven SCI compressors are integrated into a popular monobloc heat pump, which delivers an impressively high efficiency of 5.5 COP.

We began working with the Igloo R&D team in 2019, helping to evaluate four SCI ranges compatible with a DC 400 volt inverter drive and capable of delivering up to 7.9kW capacity. This included application support provided in Poland and at SCI's production facility in Thailand.

When the company adopted R290 as its refrigerant of choice, we recommended

the APB compressor range for full production. The addition of a thermo-acoustic jacket reduced noise level by around 10dB and increased heat capacity by 9%.

We now supply five models with a maximum capacity up to 21kW, with a sixth model in development to take capacity over 25kW.

To ensure there is no disruption to Igloo's production schedule, we are responsible for managing stock levels for this essential component on a monthly basis to mitigate against lead time or supply chain issues.



## Supporting Ground Source Heat Pumps

**Based in Truro, Kensa is the UK's only manufacturer of ground source heat pumps.**

We supply over 1000 Sanhua check valves a year to Kensa, which control the unidirectional flow of the refrigerant through the system and prevent backflow. A damping spring makes it easy to connect the valve at positions with pressure pulse and are easy to connect.

The check valves are integrated into their Shoebox range of R134A heat pumps (3kW and 6kW), which can generate hot water up to 65°C. They are also used in their R407C 7 to 17kW Evo models and Kensa Q twin scroll models, with capacity up to 87kW, which are designed for large and commercial buildings.

## Design Support for Start-Ups & Established Heating Specialists

**We are working with a wide variety of new and established renewable energy companies, including existing manufacturers of air conditioning, chillers and boiler manufacturers.**

We have advised these pioneering companies on the right choice of refrigerant and compressor for the level of duty required. This includes assistance with certification for use with flammable refrigerants.

We have also offered expert recommendations on compatibility with their choice of inverter drives and possible methods for effective noise reduction, oil management and crankcase heating.

Over a period of months, we have provided full product support from initial design to prototyping and testing to prepare these companies for product launch.



## Focused on Improving Performance

We work closely with OEMs on the development of their heat pumps, helping to make them more efficient and robust.

With our extensive experience of HVAC systems, we can advise your designers on what can be achieved and which components are best suited for your application.

## Supporting Your Production

As your supply chain partner, we manage the timely procurement of essential components to meet your production schedule.

We can also recommend parts that are quicker and easier to install, helping to reduce your assembly time and manufacturing costs.



## We Know Our Products

Not every supplier can offer our level of in-depth product knowledge. This is based on an expert team of technical advisers who have built strong relationships with our specialised providers of quality components.

## Want to discuss a project? Get in touch

To arrange a consultation with our refrigeration team,  
call +44 (0)1483 869 070 or email us at [sales@hawco.co.uk](mailto:sales@hawco.co.uk)

