

Our  
innovation  
is taking  
root  
around  
the world



 **GEOCLIMA**  
Smart HVAC Solutions

# We always think forward

Since 1994, we have designed and realized thermodynamic machines for applications in air conditioning and refrigeration systems, producing about **500 chillers every year**.

Our identity is founded on:

## INNOVATION

We use the highest technology available in order to maximize efficiency, reduce start-up costs and guarantee a satisfactory return on investment.

## CUSTOMIZATION

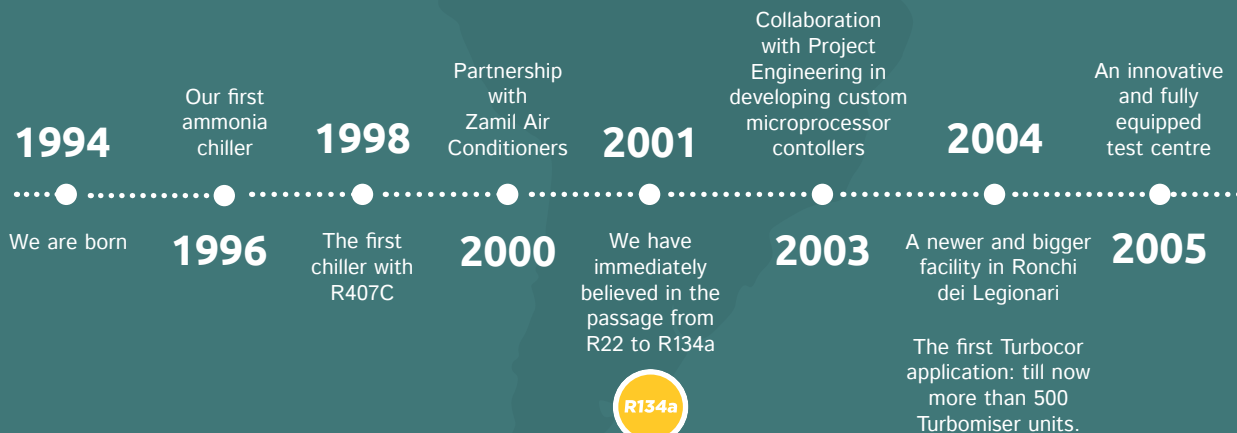
All types of machines can be provided and developed in non-standard version, thanks to the flexibility of our production system.

## ECO-SUSTAINABILITY

We aim to develop applications with the lowest environmental impact possible, using refrigerants with a very low GWP, such as the HFO-1234ze and the R290.



**Our facilities and sales offices  
around the world.**



## R&D

The R&D division is constantly dedicated to the search of new solutions suitable for providing a constant technological renewal of our machines. Quality, efficiency and reliability are the foundations of our engineering and updating processes.

We optimize every single component of a system in order to provide our clients with solutions that are specifically designed to meet their requirements.

We have developed an **innovative software** to perform 100% accurate simulations and an **user-friendly PPC** to monitor easily our units.

## TEST CENTER

The flagship of Geoclima is represented by our cutting-edge test center that can simulate the different environmental conditions of the places where the units will be installed.

The test center is able to provide a climatically controlled room for air cooled chiller up to a maximum ambient temperature of 52 °C and a minimum of 0 °C.

The computer system enables many operations that can maximize the efficiency and the reliability of the tests performed.

# High quality from design to aftersale

think  
forward



2009

Introduction  
of R290

R290

Russian  
production  
facility in  
Furmanov

2010

Waitrose project:  
the world-first  
chiller with  
HFO-1234ze



2011

New control  
software for the  
control of the  
work process  
of the units

2013

2014

Thai  
production  
facility in  
Bangkok and  
Austalian  
sales office in  
Melbourne

Stock chillers  
for Russian  
market

2015

# Delivering exclusive technologies

Geoclima is always committed to studying and developing new solutions to improve our clients' experience. From hardware equipment to software technologies, every single product is developed to improve our end users' experience and to provide a comprehensive service that clients can test on their own, from chiller selection to unit control.



**DNC**® enables the measurement of the noise produced by the chiller and adapts the performance of the chiller in order to not exceed the noise constraints and to provide always a very quiet running, ensuring the highest relative efficiency.



## **SELECTOOL™**

With **Geoselectool™** you can select the Geoclima unit that most suits the specific requirements, plan the energy demand of the building, simulate the annual energy consumption and define the financial plan for that specific plant.



## **GEOTOUCH™**

**GEOTOUCH™** is a Panel mounted PC developed in collaboration with the Italian University of Padua to achieve an intelligent and effective management logic for the chiller.



**Onboard Touch** is a web-based solution to remotely monitor the chiller performance and diagnose any problems. A gateway installed on the chiller records all data from the unit and communicates them to the Geoclima cloud-based archive.



## evaporative system

The new **Evaporative System®** brings many advantages, ensuring a greater air flow towards the condenser coils, allowing an easier access and reducing the annual electrical absorption of the chiller up to 30%, compared to a conventional adiabatic system.

# We are lightweight on the environment

Our priorities are eco-sustainability and protection of the environment: from this point of view different applications have been studied for refrigerants HFO-1234ze and R290, whose main characteristic is the very low GWP (Global Warming Potential).

The main advantages coming from these refrigerants are related to the low environmental impact and to the wide range of possible applications.

Especially R290, besides being completely natural, turns out to be particularly suitable for both positive and negative temperature applications.

FLUID	GWP*	DISPLACEMENT	COOLING EER	HEATING COP
 R410A	2088	0.0657	3.038	4.038
 R134a	1300	0.14851	3.313	4.213
 R290	3	0.1113	3.250	4.250
 HFO 1234ze	< 1	0.19979	3.304	4.304

The table shows the difference of performance for each refrigerant at the same operating conditions:

- Cycle = basic
- Evaporating T = 2 °C
- Outlet Superheat = 5 °C
- Condensing T = 48 °C
- Outlet Subcooling = 3 °C
- Pressure Drop = 30 kPa

\*For 100 years according to IPCC "Climate Change 2013".



## WAITROSE BROMLEY

The first HFO chiller in the world. The project has concerned the design and development of the first HFO chiller in the world. The system uses two 180 kW air cooled chillers using reciprocating compressors and HFO1234ze refrigerant with a very low GWP (recently decreased from 6 to 1 by the IPCC). The comparison of this plant with a sale point in Canterbury with a similar system using R290 as refrigerant, has pointed out a reduction of 22% in energy consumption. This is a very innovative project that has been awarded with the ACR News Awards 2012.



## PULKOVO AIRPORT

The Pulkovo Airport is the International Airport in the North-West Federal District of Russia and recently developed the new terminal "Pulkovo-3" covering a total area of 94 thousand square meters. The project concerned the design and development of two TMH water cooled chillers with centrifugal compressors, which provide 7.0 MW of cooling capacity and great performance in terms of EER (7.67) and ESEER (8.78) at 100% load. In addition to that, the application was designed to generate heat, cold for air conditioning and electricity at the same time.



## SBERBANK

Sberbank is the largest bank in Russia and accounts for about 27% of Russian banking assets. The project concerned the installation of a specially designed air conditioning system for the 5000-square-meters Sberbank Mega Data Center "South Port". We designed and developed 58 split TSA oil-free units with remote evaporators far up to 120 mt providing power delivery of 25 MW.



## JSW GROUP

The JSW Group is a Polish leading company in the production of high quality coking coal in Europe. The project concerned the design and development of two specially designed GNH 1350 kW chillers for the surface cooling station of the Borynia-Zofiówka-Jastrzębie coal mine. The system was designed to chill 300 mc/h of water from 29 °C down to 1,5 °C.

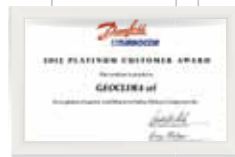
# Some of our most relevant projects

# Fully certified



The production of industrial machines requires design abilities and cutting-edge technological solutions, as well as a focus on total quality control. That's why we are UNI EN ISO 9001:2008 and we are working to obtain the ISO 50001, ISO 14001 and OHSAS 18001 certificates.

We are  
international  
awards winners





R134a



A complete range of chillers with centrifugal oil-free compressors.



**TMA**  
*Air cooled chiller*



**TMA ES**  
*Air cooled chiller with evaporative system*



**TMA FC**  
*Air cooled chiller with Free Cooling*



**TSA**  
*Condensing unit*



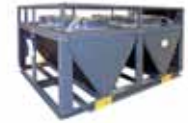
**TMH**  
*Water cooled chiller*



**TMH HE**  
*Water cooled chiller with double refrigerant circuit*



**TSE**  
*Condenserless unit*



**RCE**  
*Remote condenser*



R134a

R290



A complete range of chillers with screw compressors.



**GHA**  
*Air cooled chiller*



**GHA ES**  
*Air cooled chiller with evaporative system*



**GHA FC**  
*Air cooled chiller with Free Cooling*



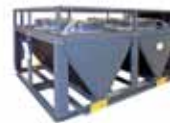
**GSA**  
*Condensing unit*



**GHH**  
*Water cooled chiller*



**GSE**  
*Condenserless unit*



**RCE**  
*Remote condenser*





R410A

R290



**VHA**  
*Air cooled chiller*



**VHA FC**  
*Air cooled chiller with  
Free Cooling*



**VSA**  
*Condensing unit*



**VHH**  
*Water cooled chiller*

A complete  
range of  
chillers with  
reciprocating  
and scroll  
compressors.



**VSE**  
*Condenserless unit*



**RCE**  
*Remote condenser*

# Customizable cooling equipment

- » Special dimensions
- » Low or very low noise levels
- » EE X construction for areas with risk of explosion
- » Low temperature chilled water/glycol down to  $-3\text{ }^{\circ}\text{C}$
- » Alternative supply voltages and frequencies
- » Structure and panels made of special materials
- » Winter operation for cold climates down to  $-40\text{ }^{\circ}\text{C}$
- » Summer operation for hot climates of up to  $+40\text{ }^{\circ}\text{C}$
- » Hydraulic packs including pumps pressurisation units and expansion vessels
- » Special design for industrial and process applications
- » Special design for marine and sub-marine application

# Our latest projects around the world

2	TMH 6D3500 WT Sp	kW 3500	Pulkovo	1	GHH-B 2240 DC 34	kW 900	Furmanov
1	TMA 3B1000A EC FC ST	kW 1020	Roskosmos	14	GHH B 1125 SW/34	kW 304	Yantar
1	TMA 2B700A AC FC T	kW 700	Tatprof	1	GHA B 280A ES EC 34	kW 370	Furmanov
1	TMA 2A550A AC FC-34-TP	kW 550	Aerotherm	1	GHA B4210B AC FC-34	kW 1598	Klimat Prof
1	TMA 1B350A EC TP	kW 356	Enprom LLC	2	GSE B170-34 TP	kW 150	VW HALLE (D)
1	TMA 2A550A EC	kW 550	Bristol	1	GHA B2240A EC FC-34	kW 1000	Lichtenstein
2	TMA 2A440A EC LLN	kW 400	London, n.1 commercial St.	1	GHA B 1180A AC 07 PU	kW 198	Mantova (IT)
1	TMA 1A190A EC	kW 190	Bristol	1	GSH B 101 744 HR	kW 86.7	Project Megra (Berlin)
1	TMA 1A190B EC	kW 190	Bristol	2	GHA B2240A AC-34 LN	kW 986	Slovenia
3	TMA 4B1400A LN EC 34	kW 1410	Aqua Cooling	1	GNH J 2224 717	kW 1350	Zoflowka (PL)
2	TMA 1A300A EC 34	kW 300	Bristol	1	GHH-B 1125/04/BT	kW 120	EGIS Pharmaceutical, Budapest (H)
3	TMA 1B400A EC LLLN	kW 400	12 Smithfield Street, London	2	GFC 4S12/290/LLN	kW 160	Waitrose, Aylesbury
2	TMA 1A280A EC LN	kW 260	University of Bath	2	GFC 4S15/290/LLN	kW 184	Waitrose, Kingston
2	TMA 4A1200A EC LLN SP	kW 1230	University of Bristol	2	GFC 4S15/290/LLN	kW 184	Waitrose, Brighton
1	TMA 1A300A EC	kW 300	Westminster Academy	2	GFC 4S20/290/LLN	kW 204	Waitrose, Reading
2	TMA 1A320A EC	kW 320	Colchester Hospital	2	GFC 4Q7.36/290/LLN	kW 130	Waitrose, Thatcham
1	TMA 1Z200A LN EC ZE	kW 225	JLP, High Wycombe	1	VHA-C 207/04/TP	kW 22	Oberwiesenthal (D)
2	TMH 6D3500 WT Sp	kW 3500	Pulkovo	2	VHA-C 207/04/TP	kW 22	Tschagguns (D)
2	TMH 6D3500 WT Sp	kW 3500	Pulkovo	1	VFC 225/66/TP	kW 111	Austria
2	TMH 6D3500 WT Sp	kW 3500	Pulkovo	1	VHA 2210A EC-01-SPEC	kW 90	Pordenone (I)
1	TMA 1Z300A EC-ZE	kW 300	JLP, Ashford	1	VHA-C 207/04/TP	kW 22	Sprungschanze Japan (D)
3	TMA 2A640B EC	kW 650	Delphi	1	VHA V 211	kW 42	France
4	TMH 1A260 SP LN	kW 260	Bristol	1	VHA 1090C EC-01	kW 20	Agriturismo Le Giarine (I)
4	TMA 2A450A EC	kW 450	Bristol	1	VSE 219-34	kW 50	VW Wolfsburg / Sektor 23 (D)
2	TMA 3B 1080A LN EC-34	kW 1150	Verizon UK5	2	VSA 209/34	kW 22	Freezol (A)
2	TMA 2A500B EC	kW 500	Bristol	1	VHH-C 430/01/SP	kW 290	13 KHH Lörrach KW Kälteanlage (D)
2	TMA 2A640B EC-34	kW 663	Verizon	1	VFC 2760A AC-01	kW 356	Lichtenstein
3	TMH 2A600 WT 34 SP	kW 650	Verizon UK2	1	VHH F 125/290	kW 47	Projekt Eichberger
1	TMA 1A 320A EC-34LN-SP	kW 320	Kings Cross	1	VHH F 3V20 290 PU	kW 80	Projekt Rewe Supermarkt
1	TMA 2A640B EC	kW 650	Bristol	1	VHH F 4W60-290 HR	kW 670	CSL
1	TMA 1B400A EC-34	kW 410	University of Cardiff	2	VHA F 1D04 290 TP	kW 12,27	Lidl Serverkuehlung
2	TMH 1B400 DC	kW 400	Royal Albert Hall, London	2	VSA-B 250/34/EEX	kW 140	900091 YERP-SP-3



Our designing and production facility in Ronchi dei Legionari, Italy, specialized in heat exchangers, sheet metal forming and precision carpentry.

[www.cromsrl.com](http://www.cromsrl.com)



Our 35-year-old sales office in Ternitz, Austria, specialized in Air Handling Units for outdoor and indoor installation.

[www.climatech.at](http://www.climatech.at)

# Our world



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