



APPLIED SYSTEMS

# REFERENCE CATALOGUE



# CHILLERS





Daikin Europe N.V.

# ABOUT DAIKIN

Daikin has a worldwide reputation based on over 80 years' experience in the successful manufacture of high quality air conditioning equipment for industrial, commercial and residential use.

## DAIKIN QUALITY

Daikin's much envied quality quite simply stems from the close attention paid to design, production and testing as well as after-sales support. To this end, every component is carefully selected and rigorously tested to verify its contribution to product quality and reliability.

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# ENVIRONMENTAL AWARENESS

In all of us,  
a green heart



## AIR CONDITIONING AND THE ENVIRONMENT

Air conditioning systems provide a significant level of indoor comfort, making possible optimum working and living conditions in the most extreme climates. In recent years, motivated by a global awareness of the need to reduce the burdens on the environment, some manufacturers including Daikin have invested enormous efforts in limiting the negative effects associated with the production and the operation of air conditioners. Hence, models with energy saving features and improved eco-production techniques have seen the light of day, making a significant contribution to limiting the impact on the environment.

## DAIKIN'S COMMITMENT TO THE ENVIRONMENT

The pioneering concern for the environment and natural resources is a part of the entire global Daikin operation at all levels: from product design, manufacturing processes, down to the responsibility each individual Daikin employee takes for the environment.

This commitment is reflected in three areas: reducing waste in manufacturing and operations, recycling materials, and designing and producing energy-efficient climate control equipment.

## REDUCING WASTE IN MANUFACTURING AND BUSINESS OPERATIONS

In 1998, Daikin Europe NV became the first air conditioning manufacturer in Europe to obtain ISO 14001 environmental certification. In addition, since 2004, not only the manufacturing plants but Daikin sales companies as well have obtained ISO 14001 certification, underlining Daikin's commitment to the environment at all levels of our organisation.

These certified environmental plans include the reduction of waste at all levels. Our environmental targets are high: Daikin Europe NV is committed to a zero waste policy whereby as much as possible of its by products can be reused, recycled or recovered as useful resources.

## RECYCLING MATERIALS

Daikin Europe NV is firmly committed to recycling materials in all areas of its operations. Wastewater is treated before being discharged into the city drainage system, with the recovered sludge being a useful ingredient in cement manufacturing. Other waste is also carefully sorted and recycled, supported by a continually evolving factory layout that encourages the optimum use of resources. In addition to recycling, we invest significantly in returnable packaging. The same high demands are also imposed on our suppliers.

Eliminating waste and optimum recycling reduce raw material consumption and contribute to efficient manufacturing and operating processes, meaning fewer burdens on the environment.

## ENERGY EFFICIENT CLIMATE CONTROL EQUIPMENT

Daikin's commitment to being a leader in environmental developments has led to a string of innovations in climate control equipment:

- > Daikin's use of inverter technology for example reduces start-up time by 33% and allows the compressor to consume only the power it actually needs to meet the cooling/heating needs of the moment.
- > Linking the use of inverter technology to reluctance DC compressor motors has further improves efficiency, allowing Daikin units to obtain the highest efficiency ratings in the market.
- > Daikin also produces computerised air conditioning monitoring and control systems designed to ensure maximum energy efficiency at all times, such as Daikin's latest I-controller technology which offers customers refined and energy efficient control of Daikin heat recovery air conditioning installations, including remote monitoring via the Internet.

This list of innovations could be expanded endlessly. More importantly, it clearly demonstrates that technological innovation and concern for the environment can go hand in hand. At Daikin, these environmental priorities form an integral part of our corporate culture and are reflected in all of our products.

Choosing Daikin means you can be sure that the cooling systems you use are the safest possible for the environment.

# DAIKIN CHILLERS, THE RELIABLE SOLUTION

Daikin chillers have proved their worth many times over – from industrial sites to numerous comfort applications. Regardless of system size or climate control needs, there is a Daikin chilled water system to suit your requirements.

The careful development of closely matched compressor/refrigerant combinations has enabled Daikin to produce a complete range of chillers, optimised for use with R-134a, R-407C and R-410A refrigerants.

Daikin chillers offer the ultimate in flexibility and control, reflecting the advanced technology at their core. Unique in their precision, power, low operating noise, easy maintenance and low running costs, Daikin chillers represent the sure and safe route to an indoor environment that is comfortable, clean and consistent.

As a manufacturer that makes its own refrigerant and compressors, Daikin has total control at the production stage.

It is this unique combination of advanced technology, experience and reliability that makes Daikin the obvious choice and long term solution for the professional.

## DID YOU KNOW THAT...

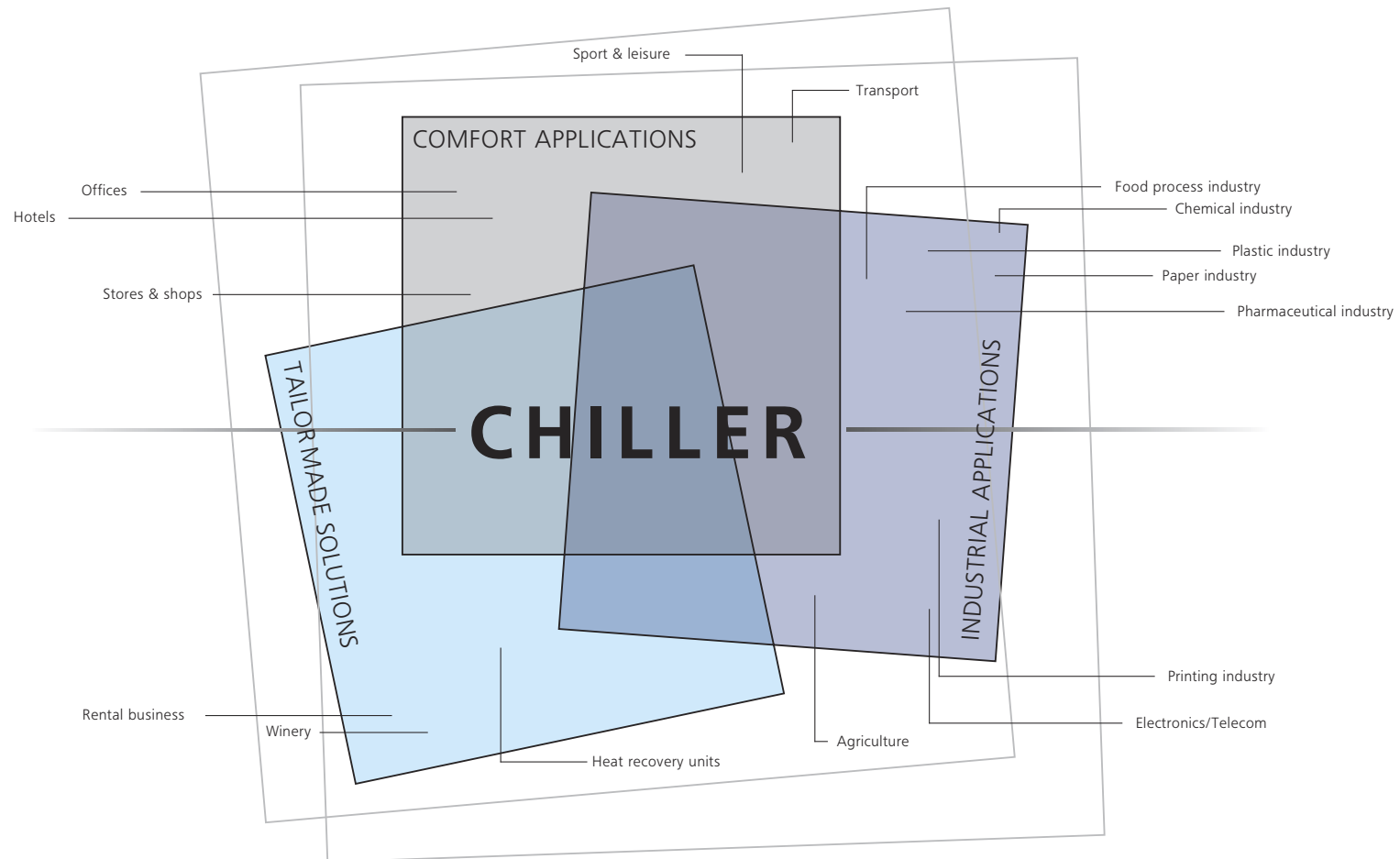
- > All Daikin chillers are factory charged with the correct quantity of oil and refrigerant to ensure easy installation and commissioning.
- > All Daikin chillers are subjected to a wet running test prior to shipping to ensure their trouble free start-up and satisfactory operation in the field.
- > Factory visits can be organised for customers on request.

If you have an application that cannot be met by a standard Daikin chiller, please contact your local Daikin dealer who can arrange for a special unit to suit your requirements.



# WIDE RANGE

*DAIKIN Chillers for...*



## COMFORT APPLICATIONS

Daikin air and water cooled chillers are at the heart of many high-performance air conditioning systems. They make use of the most advanced technology available and provide many years of reliable and quality service. Daikin chillers interface to a wide range of air handling and fan coil units to provide air conditioning and heating comfort in both small and large applications.

## INDUSTRIAL APPLICATIONS

Daikin chillers are well-suited to critical industrial applications where precise temperature control is paramount. The unrivalled combination of purpose-designed scroll and screw compressors with state of the art electronic controls make Daikin chillers a reliable, cost-effective and easy to maintain solution for a wide range of industry sectors.

## TAILOR MADE SOLUTIONS

Can't find a standard model that meets your needs? Daikin can design a chiller system based on your specific requirements. Daikin chillers are well suited to mobile operation (e.g. special events) and are constructed to withstand frequent transportation and to operate in severe environments. Daikin offers cost-effective and tailor-made solutions with short delivery times.



# COMFORT APPLICATIONS

*As advances in technology afford individuals shorter working hours and increased leisure time, so the facilities designed to accommodate the new life styles develop in their scope, size and amenities. Gone are the days when national sports stadiums comprised little more than outdoor spectator seating and participant changing rooms. Their giant present day counterparts reflect the massive investment inherent in professionalism and combine the ultimate in sporting facilities with special spectator suites, restaurants, bars and conference rooms etc...*

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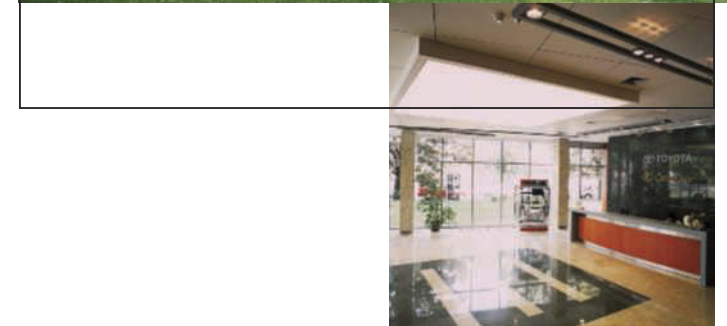
# OFFICES

## *Toyota Motors Warsaw, Poland*

### COMFORT COOLING FOR A RANGE OF BUSINESS ACTIVITIES

This modern five-storey headquarters for Toyota in Poland encompasses a ground-floor reception area and showroom, as well as offices, conference halls, open areas and split level-training rooms each equipped with a workshop and lecture hall.

Occupants of the 3,000 m<sup>2</sup> complex are provided optimum comfort by Daikin indoor and outdoor chillers feeding fan coil units.



### MAIN EQUIPMENT:

- 1 x EUWLQ60MXY
- 1 x EUWA25HZW
- 1 x EHMC30A10

# OFFICES

## *PricewaterhouseCoopers Limassol, Cyprus*

### LEADING ACCOUNTING FIRM CHOOSES DAIKIN

PricewaterhouseCoopers is a leading provider of accounting, financial and business advisory services on the island of Cyprus. It employs more than 600 partners and staff, distributed across five offices.

When equipping its new ultramodern 3,500m<sup>2</sup> main office building in Limassol in 2004, Daikin chillers technology was chosen. The building utilises a zoning scheme with temperature control depending on the building zone and the time of day. This requirement and the large size of the project made Daikin the obvious choice.



**MAIN EQUIPMENT:**  
2 x EUWAT120KBXY



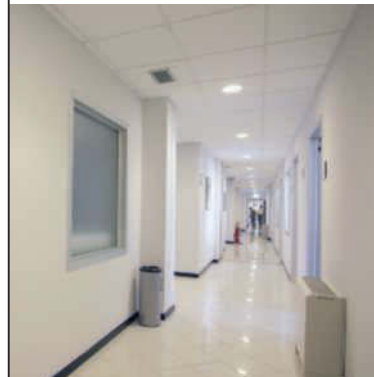
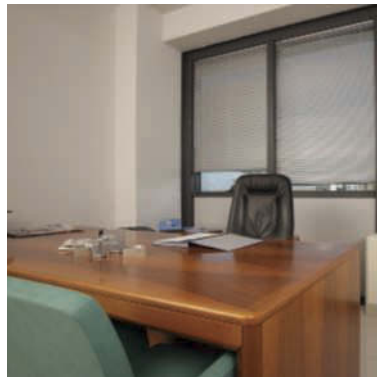
# OFFICES

## *Consiag Prato, Italy*

### **PUBLIC UTILITIES COMPANY CHOOSES DAIKIN**

Consiag was founded in 1975 by the Italian towns of Prato, Scandicci, and Sesto as a partnership for managing water and gas services.

Efficiency and quality are key watchwords for this group. No wonder then that when building its new offices in Prato in 2002, a comprehensive Daikin chiller solution was chosen.



# OFFICES



## MAIN EQUIPMENT:

24 x EUWY 5HW  
36 x EUWY 8HW  
2 x EUWY10HW  
2 x EUWY15HW  
2 x EUWY20HW

56 x FWV2B  
278 x FWV3B  
28 x FWV4B  
6 x FWV6B  
24 x VAM250  
40 x VAM500  
2 x VAM1000



# OFFICES

## *Edificio Central Correos y Telégrafos Valencia, Spain*

### HISTORICAL POST OFFICE BUILDING

This elegant central post office building was built between 1915 and 1922. Located on the central Plaza del Ayuntamiento, its style reflects the eclecticism of the 1900s and it is best known for its striking main entrance. In addition to the post office, the building serves as office space.

When renovated in 2003, Daikin air-cooled chillers were chosen for their efficiency and quiet operation.



**MAIN EQUIPMENT:**  
2 x EUWA200MZ



# RESTAURANTS

## *Pavillon Elysée* *Paris, France*

### THE ART OF LIVING

Totally dedicated to gastronomy and the art of life, Pavillon Elysée – along the world's most beautiful avenue, the Champs Elysées – houses a unique collection of culinary concepts: a cooking school, 2 fashion restaurants "Café Lenôtre" and "Le Comptoir," and a retail space offering professional kitchen utensils and cookbooks. This epicurean temple is part of the Lenôtre Paris empire founded by pastry genius Gaston Lenôtre.

The dining room and lounges of this unique meeting place for food lovers is cooled by 2 Daikin chiller units, chosen for their compact footprint and exceptionally quiet operation.



**MAIN EQUIPMENT:**  
2 x EUWN20HZW



# HOTELS

## *Sani Hotel* *Chalkidiki, Greece*

### **AWARD-WINNING 4-STAR BEACHSIDE HOTEL ON 1,000-ACRE RESERVE**

The Sani Resort, located near the site of the ancient city of Sani, is a private ecological reserve in Chalkidiki, close to Thessaloniki. Visitors have access to green forests, sandy beaches and the blue waters of the Aegean Sea, as well as modern accommodations and a wide variety of entertainment centres.

The resort consists of no less than four hotels. One of these, the 4-star Sani Asterias suites Hotel, is located alongside the ancient Byzantine watchtower, amid the gardens and forest. Built in 2003, this renowned hotel has won numerous awards for its exceptional quality and unrivalled range of services. Daikin air-cooled chillers feeding concealed fan-coil units were chosen to cool its 2,400 m<sup>2</sup> of luxury rooms and activity centres.



#### **MAIN EQUIPMENT:**

8 x EUWY10-30HD

90 x FWHM



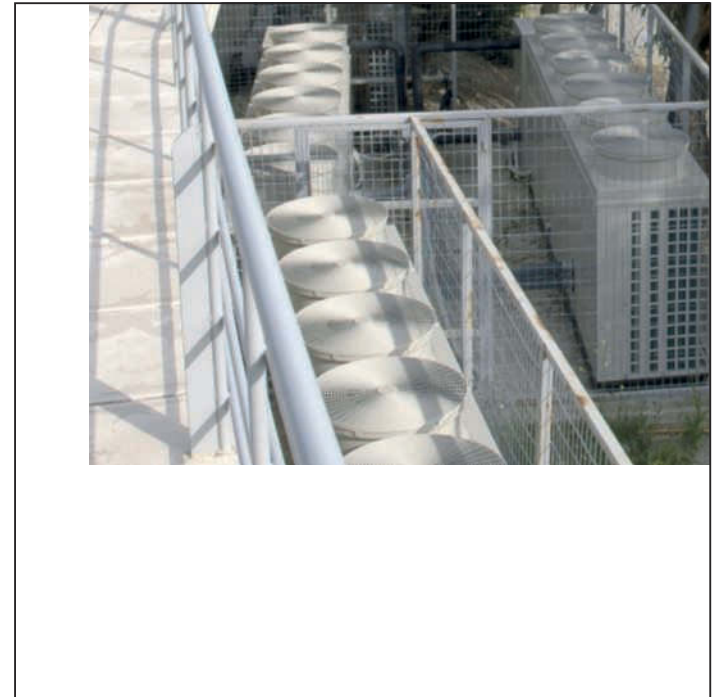
# HOTELS

## *Anastasia resort* *Nea Skioni (Chalkidiki), Greece*

### **HOLIDAY AND BUSINESS CENTRE AMID UNPARALLELED NATURAL BEAUTY**

Located in the village of Nea Skioni on the Chalkidiki Peninsula—since antiquity an area of unparalleled natural beauty and historical value—is the luxury hotel Anastasia Resort. Built in 2003, this holiday and business centre is composed of four buildings, located in a 30,000 m<sup>2</sup> olive grove, in complete harmony with the surroundings, and only metres away from the Aegean Sea.

The complex includes over 100 rooms including three penthouse suites, and four luxurious halls for housing conferences and business meetings of various sizes. No expenses were spared in the design of the rooms and common areas. Climate control of the 6000 m<sup>2</sup> is handled by no less than eight air-cooled chillers feeding an array of indoor units.



### **MAIN EQUIPMENT:**

- 6 x EUWY30HD
- 2 x EUWYB20K
- 130 x FWHM
- 7 x FHYCP
- 25 x FXYFP
- 3 x RYP250B
- 1 x RYEP125LW
- 3 x RSXYP10K

# HOTELS

## *Marriot Grand Hotel, Moscow, Russia*

### FIVE STARS IN THE HEART OF MOSCOW

The newly-built luxurious five star Marriott Grand Hotel is located in the heart of Moscow on famed Tverskaya Street, close to Red Square and many other landmarks. Its 9 floors contain 373 superb hotel rooms, 13 magnificent suites and 855 m<sup>2</sup> of meeting space. The Marriott Grand is one of the largest guest and conference centres in the city and is renowned for its extensive focus on service.

The Marriott's 37,000 m<sup>2</sup> of total space is cooled by Daikin using 170 indoor units supported by an EUWLT chiller. Chiller technology was chosen for its high capacity, simplicity of operation and system reliability. Five stars for Daikin!

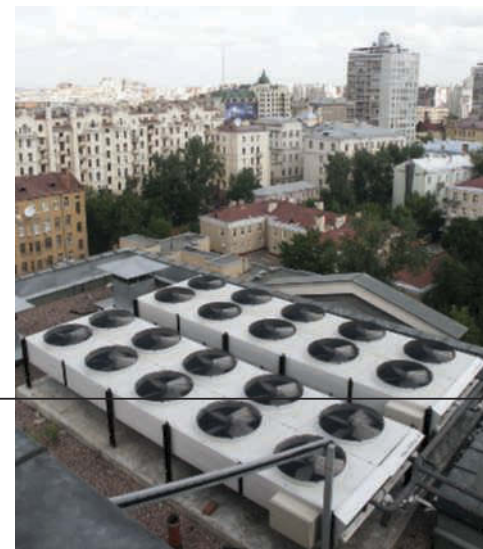


#### MAIN EQUIPMENT:

100 x FWM03

70 x FWM04

1 x EUWLT180KXY1



# CONGRESS BUILDING

## *Palais des Congrès Versailles, France*

### PRESTIGIOUS CONFERENCE CENTRE

The Palais des Congrès is located in the prestigious historic city centre of Versailles. Its exceptional location opposite the famous castle and its easy access to Paris make it ideal for exhibitions, conventions and gatherings of all sizes. No less than 16 full-fledged conference rooms are capable of providing a wide variety of services to groups of all sizes. Two of the rooms double as exhibition area, providing up to 2,000 m<sup>2</sup> of exhibition space.

When renovating this splendid complex, the City of Versailles opted for a mixture of Daikin VRV technology and chiller technology for climate control of all rooms, with water from the chiller being used to cool the main hall. The chiller technology was chosen for its compactness and its exceptionally low noise level.



#### MAIN EQUIPMENT:

1 x EUWL100MXY  
3 x REYQ12M

# STORES & SHOPS

## *Kvadrat Kiev, Ukraine*

### KEEPING SHOPPERS COOL

The Kvadrat Shopping Centre is located in Kiev, the capital of Ukraine and industrial and port city on the River Dnieper. Keeping the stores and shops in this new 15,000 m<sup>2</sup> complex cool is a top of the line MZ series Daikin EUWA chiller with air-cooled condenser.

Daikin was chosen for its optimum combination of price and quality.



### MAIN EQUIPMENT:

1 x EUWA200MZ

# STORES & SHOPS

## *Borisovskiy Passaj Supermarket and Sport & Leisure Centre Moscow, Russia*

### SIMPLICITY AND RELIABILITY

A good example of the use of chiller technology for comfort applications is the 17,000 m<sup>2</sup> Borisovskiy Passaj. This multi-purpose facility, located in Moscow, includes a modern fitness centre, a bowling centre, a supermarket and a luxurious restaurant.

Ventilation and air conditioning are based on a Daikin EUWL180KX unit. Simplicity and reliability were the customer's keywords when choosing Daikin, a choice borne out by years of trouble-free service.



### MAIN EQUIPMENT:

1 x EUWL180KX

# BANKS



## *OTP Bank Budapest, Hungary*

### **BANKING ON SUCCESS**

National Savings and Commercial Bank or OTP is Hungary's former state savings bank. It was privatised in 1992 and has transformed itself into the largest retail bank in Hungary. OTP has a full range of commercial banking services and the greatest ATM coverage in the country. It also has acquired major interests in other banking institutions in the up-and-coming Central European region.

When faced with the cooling needs of a new 25,000 m<sup>2</sup> banking and office building in Budapest, this major Central European player opted for Daikin chiller systems feeding a range of wall and ceiling units throughout the complex. Chiller technology was used due to the size of the building and the favourable cost of the investment in comparison to other systems. A long history of excellent business relationships between Daikin, the consultants, installers and the customer also contributed to the success of the project.

### **MAIN EQUIPMENT:**

4 x EUWA200MZY + OPLN + OP52

1 x EUWA180MZY + OPLN + OP52

4 x FWVM4BAF • 316 x FWVM6BAF • 72 x FWVM8BAF

58 x FWVM10BAF • 1 x FWV1BAF • 1 x FWV6BAF • 6 x FWHM2BAF

5 x FWHM3BAF • 24 x FWHM6BAF • 2 x FWHMBAF • 41 x FWHM10BAF



# BANKS

## *FöreningsSparbanken Stockholm, Sweden*

### KEEPING VITAL COMPUTER TECHNOLOGY COOL

FöreningsSparbanken is one of the largest banking groups in the Nordic area. It is also Sweden's largest Internet and telephone bank, serving over 3 million clients. Meeting this growing demand for e-banking services requires a fail-safe computer network and robust infrastructure.

Hence, when upgrading its facilities, FöreningsSparbanken chose Daikin chiller technology to cool the CPU centre supporting their North European computer network. The group of EUWS 100 MX units can be controlled independently, an important aspect of this critical application.

Daikin Sweden and contractor Hansson Kyl AB worked closely together in bringing the project to a successful conclusion.

### MAIN EQUIPMENT:

10 x EUWS100MX



# BANKS

## *UKR EXIM Bank Donetsk, Ukraine*

### INTERNATIONAL BANKING

UKR EXIM, the State Export-Import Bank of Ukraine, is an important player in the banking and import-export world, serving an extensive domestic network as well as major international partners.

When renovating their 2,500 m<sup>2</sup> branch in Donetsk, the leading city in the mineral-rich industrial region of the Donets Basin of Ukraine, Daikin technology was chosen to handle the cooling needs of the UKR EXIM bank. The system is centrally controlled via computer and was chosen for its reliability and ease of installation.



### MAIN EQUIPMENT:

1 x EUWA100K



# MEDICAL INSTITUTES

## *Meersburg Spa* *Meersburg, Germany*

### TAPPING NATURE'S PRIMORDIAL WARMTH WITH TODAY'S TECHNOLOGY

Meersburg Spa, on the shores of Lake Constance, features indoor and outdoor thermal pools, indoor and outdoor swimming pools, and various saunas including massage areas. Public swimming is also offered in the summer months, including a dip in Lake Constance.

An ingenious heat recovery system uses a Daikin Chiller to cool the used thermal bath water to 8° C so that it can be safely channelled into Lake Constance. The heat recovered from this operation in turn is used to warm fresh water used at the facility. Key to the choice of Daikin was its compact dimensions, efficiency and low noise level.



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**MAIN EQUIPMENT:**  
1 x EUW40MXY



# MEDICAL INSTITUTES

## *Oberwart Hospital Oberwart, Austria*

### REGIONAL MEDICAL CENTRE

Nestled within the province of Burgenland, bordering Slovakia and Hungary to the East, is the city of Oberwart. Beginning in 1976, when a specialised medical centre was needed to serve the southern part of Burgenland, the Oberwart hospital was substantially upgraded over a period of some 15 years from its original state – built in 1911 – to a modern 433-bed facility that houses general hospital services as well as specialised medical services for children, a neurology department, an accident surgery ward and a urology department. The facility also includes institutes for anaesthesiology, intensive care and medical imaging. The hospital has been part of the Krankenanstalten GmbH (KRAGES) group since 1993.



When additional renovation work was required in 2003, Daikin chiller technology was chosen for comfort cooling of the surgery rooms and patient wards as well as for industrial cooling of medical scanning equipment. The key features that set Daikin apart from the competition: Daikin chillers interface directly to the hospital's Building Automation System and its modular construction allowed easy installation where other chillers would not fit. DACE Airconditioning also played a key role in providing advice on reducing initial investment costs, an additional benefit that did not go unnoticed by a very satisfied customer.



### MAIN EQUIPMENT:

2 x EUW140MAXY-8

# MEDICAL INSTITUTES

## *Walcheren Hospital* *Walcheren, the Netherlands*

### A NEW APPLICATION FOR A SATISFIED CUSTOMER

Walcheren Hospital is located in the North Sea coastal city of Vlissingen in the Netherlands. It hosts a medical facility dedicated to meeting the challenges of 21<sup>st</sup> century healthcare head on, and was in fact already a satisfied Daikin customer. When specialised cooling was needed for a new MRI scanner in 2004, Daikin was again the preferred supplier.

In this critical application, the scanner unit's coil is kept just above absolute zero to ensure superconductivity. The helium making this cooling possible is in turn cooled by a Daikin chiller.



#### MAIN EQUIPMENT:

1 x EUWA30HZW1S

1 x EHMC30AV1010



# SPORTS & CULTURE

## *Concert building Bruges, Belgium*

### NEW CULTURAL MONUMENT FOR HISTORIC MEDIEVAL CITY

Constructed for 2002, the year Bruges played host as Cultural Capital of Europe, this impressive building with its warm terracotta colour has taken its place among the noteworthy monuments in this beautiful medieval city. The complex consists of a 1,300-seat concert auditorium, a 320-seat chamber music hall as well as a large and a small rehearsal area.

Since 2002, the complex has developed into a fully-fledged arts centre as well as congress and exhibition centre. Visitors and staff of this unique building are kept comfortable by two Daikin chillers linked to a central building management system.



#### MAIN EQUIPMENT:

1 x EUWAT120LZ

1 x EUWAT160LZ

# SPORTS & CULTURE

## *Sports Hall* *Warsaw, Poland*

### KEEPING ATHLETES AND SPECTATORS COOL

Part of the Ursynów Sports and Recreation complex, this 9,500 m<sup>2</sup> sports hall houses four gymnasiums, administrative facilities, and an auditorium that can accommodate some 2,000 spectators for a range of events including international volleyball tournaments.

Air conditioning is handled by two Daikin chillers supplying fan coil units located throughout the hall.



### MAIN EQUIPMENT:

2 x EUWL100



# SPORTS & CULTURE

## *The Hermitage Museum St. Petersburg, Russia*

### **CULTURAL HERITAGE FROM THE STONE AGE TO CONTEMPORARY TIMES**

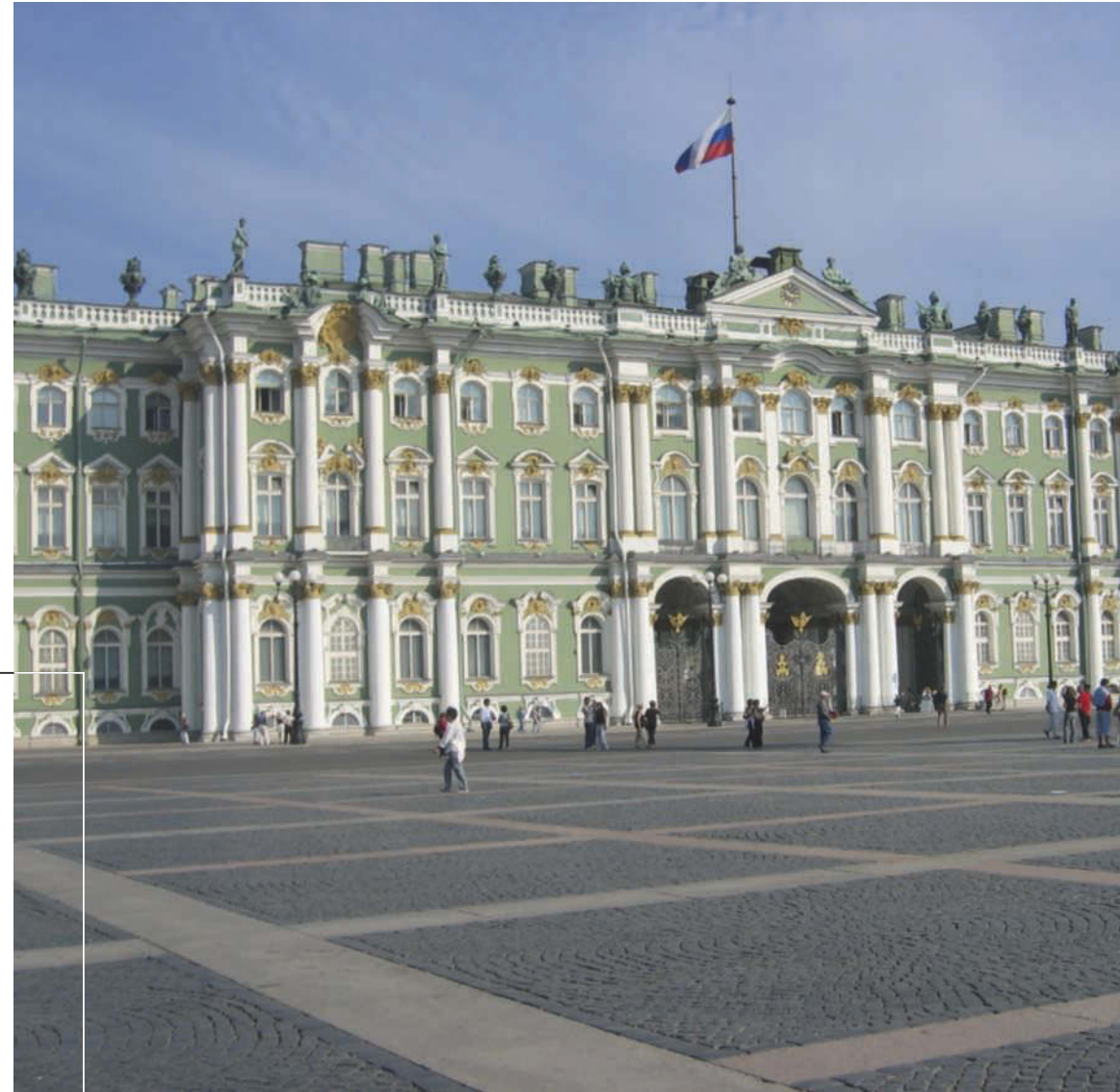
Rivalling the Louvre in size and quality, the Hermitage, located along the River Neva in the heart of St. Petersburg, has over 3 million works on exhibit. It is estimated that it would take 11 years to visit all of the vast collection of paintings and antiquities if just 1 minute was spent at each exhibit! The complex itself includes six magnificent buildings – the main building is the former winter palace of the tsars – and is an architectural wonder in itself.

Daikin is proud to be a part of this unique piece of cultural heritage. Daikin chillers installed in 1989 and 1991 provide comfort cooling to visitors and a safe climate for the treasures housed within.



#### **MAIN EQUIPMENT:**

4 x EUWL15E  
2 x EUWL150F



# SPORTS & CULTURE

## *Her Majesty's Theatre* London, UK

### STATE OF THE ART COOLING IN AN HISTORIC LONDON THEATRE

The current theatre is the fourth to occupy the existing site. The original dated back to 1705, the current building to 1897. Numerous record-breaking performances have played here, and it has been home to the Andrew Lloyd Webber/Charles Hart production of Phantom of the Opera since 1986.

Adding to the audience experience is the cooling comfort provided by a Daikin chiller.



**MAIN EQUIPMENT:**  
1 x EUWAT80LZY



# SPORTS & CULTURE

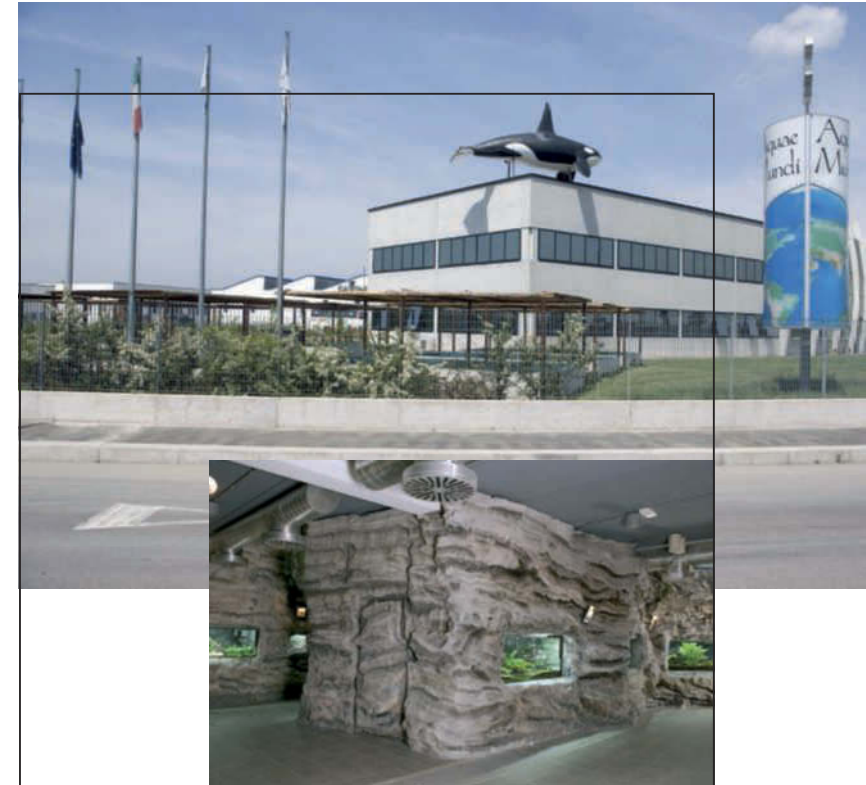
## *Aquae Mundi* *Russi, Italy*

### AQUATIC CENTRE GOES DAIKIN

Aquae Mundi, an aquatic research and educational centre in the province of Ravenna in northeast Italy, is home to marine expositions, labs for teaching and research, a museum and library, as well as living facilities for guest researchers. Aquae Mundi is open to the public and prides itself in its educational programmes for students.

Climate control for this modern facility built in 2003 is provided by a Daikin chiller.

Daikin was chosen for its exceptionally low noise level, a quality much appreciated by Aquae Mundi and its finned inhabitants.



### MAIN EQUIPMENT:

1 x EUWA80KBXY

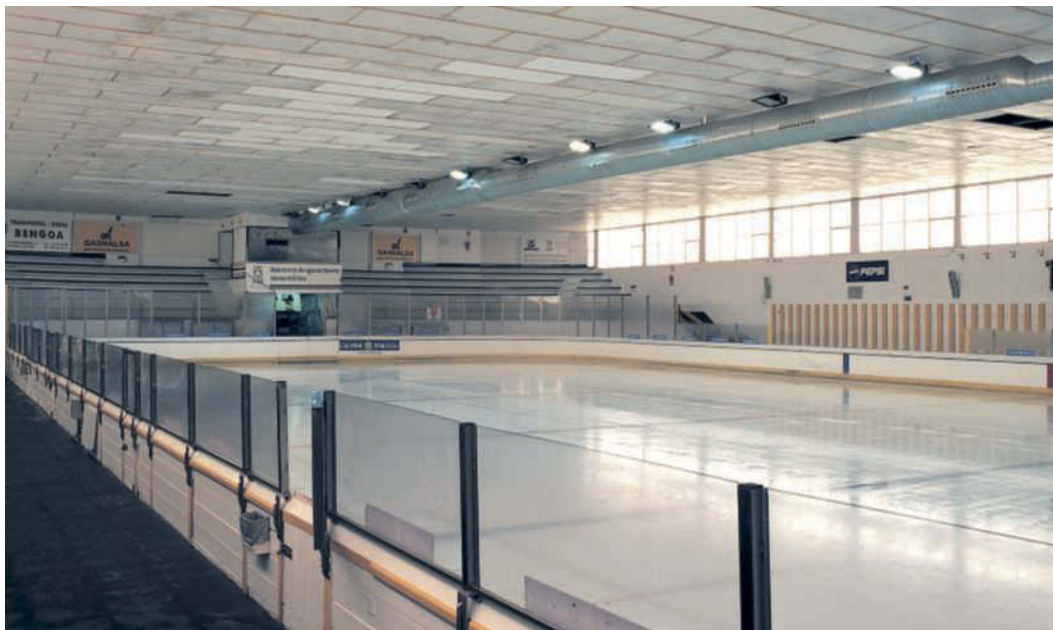
# SPORTS & CULTURE

## *Ice rink* *Vitoria, Spain*

### KEEPING THE ICE COOL

The northeastern Spanish city of Vitoria in the Basque region is headquarters to this region's government. When the city was faced with renovating its ice skating rink, Daikin was the supplier of choice for climate control solutions.

Four Daikin chiller units keep the complex cool. An added benefit was the ease of installation into the existing machine room due to the modular construction of the chiller units.



**MAIN EQUIPMENT:**  
4 x EUW60MX-8

# AIRPORTS

## *Barcelona El Prat International Airport Barcelona, Spain*

### MAJOR RENOVATION PROGRAMME

Located 12 km southwest of the city, Barcelona International Airport, also known as El Prat, is a major hub for the Catalonia region and the second busiest airport in Spain. The airport has links to 50 EU cities, 40 in other countries and 30 domestic destinations.

In 2001, the facility began a major renovation programme to allow it to handle an expected doubling of passengers by 2007, to more than 45 million passengers per year. Daikin was part of the project, providing climate control for 200,000 m<sup>2</sup> of the facility through its chiller technology.



**MAIN EQUIPMENT:**  
24 x EUWA120KBX



# AIRPORTS

## *Airport Mariupil, Ukraine*

### FLYING HIGH WITH DAIKIN

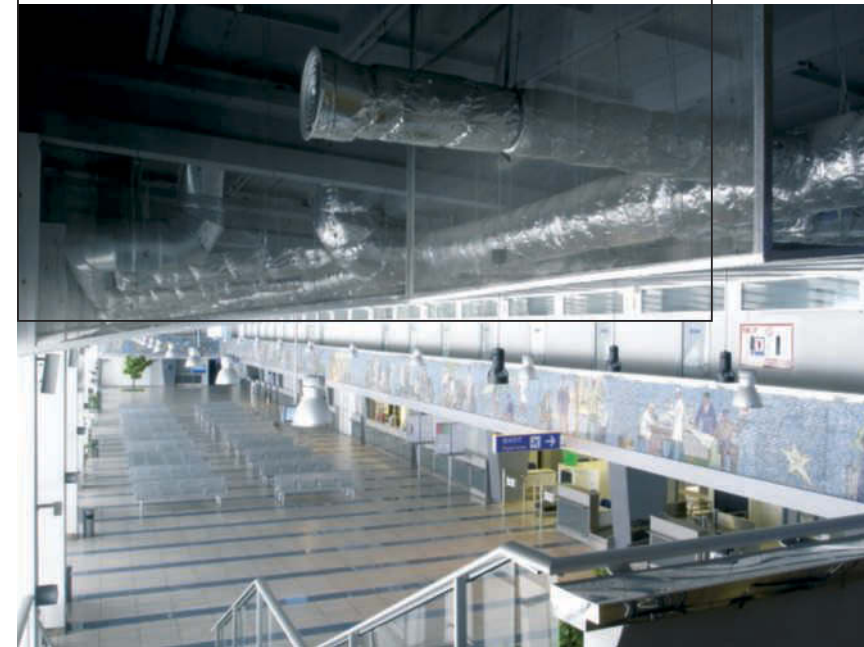
Mariupol, built on the site of an ancient Slavic settlement, is an industrial port city on the southern coast of Ukraine. It is an important seaport, railroad and air terminus, as well as a centre for machine manufacturing, the chemical industry and shipbuilding.

When the passenger terminal of the Mariupol Airport was due for renovation in 2003, a Daikin chiller unit was chosen to provide cooling for the passenger terminal. Key reasons for choosing Daikin were the simplified installation requirements, reliability of operation and very high efficiency. The system is connected to a central computer for optimum control.



### MAIN EQUIPMENT:

1 x EUWA160KXY unit



# INDUSTRIAL APPLICATIONS

*Need precise and reliable temperature control for your industrial process? Daikin chillers offer accuracy, reliability and cost-effective operation, making them ideal for industrial applications in a range of sectors: pharmaceutical, food and drink, rubber and plastics, paper and printing, chemical and electronics. Daikin chillers integrate unrivalled chiller technology and state-of-the-art control, and are successfully operating in many industrial applications throughout the world.*

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# CHEMICAL INDUSTRY

*Bioton S.A.*  
*Warsaw, Poland*

## INDUSTRIAL COOLING IN THE BIOTECHNOLOGY SECTOR

BIOTON S.A. is a fast-growing company in the Polish biotechnology sector. The company manufactures important modern drugs, including recombined human insulin and its pharmaceutical forms.

Company growth led to the construction of a new manufacturing plant near Warsaw in 2004. Daikin chillers, chosen for their quality and reliability, provide cooling for clean-room production areas and for installations used for pharmaceutical production lines.



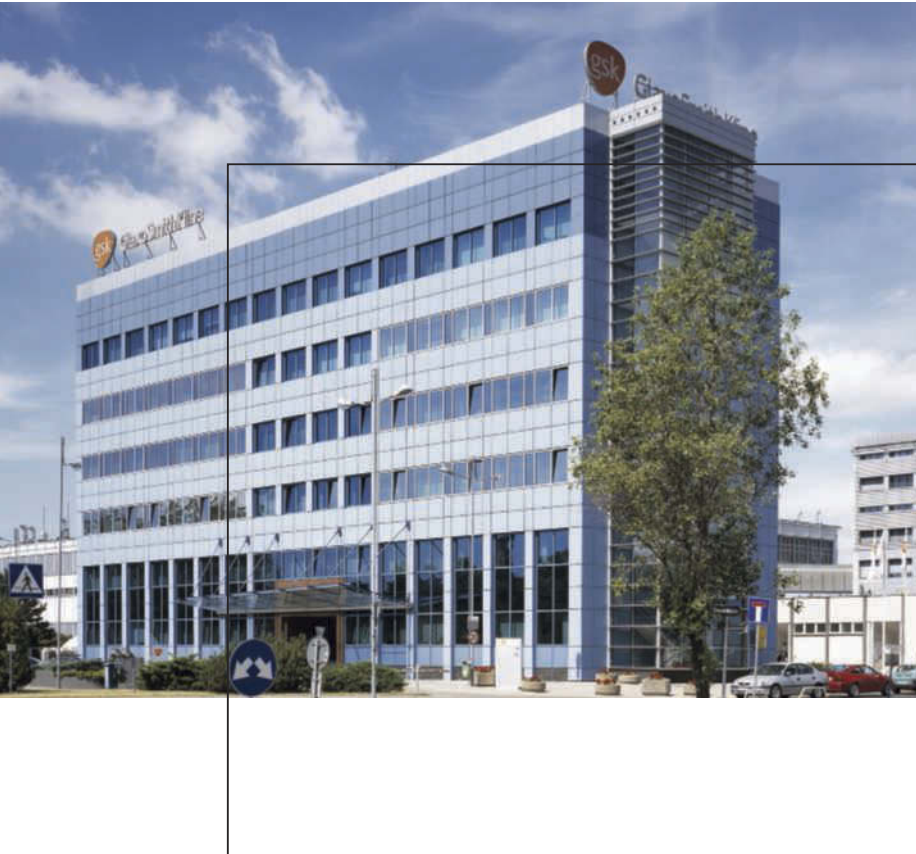
### MAIN EQUIPMENT:

2 x EUWA120MZY

2 x EUWA50MZY



# CHEMICAL INDUSTRY



## *GlaxoSmithKline Poznan, Poland*

### INDUSTRIAL COOLING FOR A PHARMACEUTICAL GIANT

GlaxoSmithKline occupies a leading position in the Polish pharmaceutical sector. Its recently built manufacturing and distribution facility near Poznan is one of the most modern pharmaceutical plants in Central and Eastern Europe.

The Daikin water-cooled chillers installed at the plant are a part of key cooling and air-conditioning systems. Facilities served include an ultra-modern high-rack warehouse for 10 thousand pallets, production lines in the elastic capsules production hall, and the water system supplying other production lines in the plant.



#### MAIN EQUIPMENT:

2 x EUWA120MZY

1 x EUWA200MZY

# CHEMICAL INDUSTRY

## *Zentiva Prague, Czech Republic*

### IMPROVING HEALTH AND WELL-BEING IN CENTRAL EUROPE

Zentiva is among the five largest pharmaceutical groups in Central and Eastern Europe, specialising in the development, manufacturing and marketing of branded equivalents.

The group is the culmination of the privatisation of the two leading pharmaceutical companies in the Czech and Slovak Republics, and their merger into Zentiva in 2003. In the meantime Zentiva's offerings have grown to almost 270 products with a number of therapeutic focuses including cardiovascular disorders and diseases of the central nervous system.

Increasingly, its product range also includes OTC (over the counter) products and dietary supplements.

Zentiva boasts a commitment to modern and safe manufacturing facilities, with all plants now exceeding the EU requirements for pharmaceutical production. The 24,000 m<sup>2</sup> office and production facility shown here includes a number of Daikin chiller installations to handle industrial machinery cooling and comfort cooling requirements. Important in its choice of Daikin as partner was system reliability.



#### MAIN EQUIPMENT:

- |                    |                       |
|--------------------|-----------------------|
| 3 x EUWA40FSDY1ZH  | • 2 x EUWAT60GSDW1    |
| 1 x EUWAM100GSDW1  | • 1 x EUWA120HW1      |
| 2 x EUWAM120GSDW1  | • 3 x EUWAB120HASDY1R |
| 2 x EUWAB120KSDY1R | • 2 x EUWAT120KXSDY1R |





# METAL INDUSTRY

## *Magnitogorsk Iron and Steel Magnitogorsk, Russia*

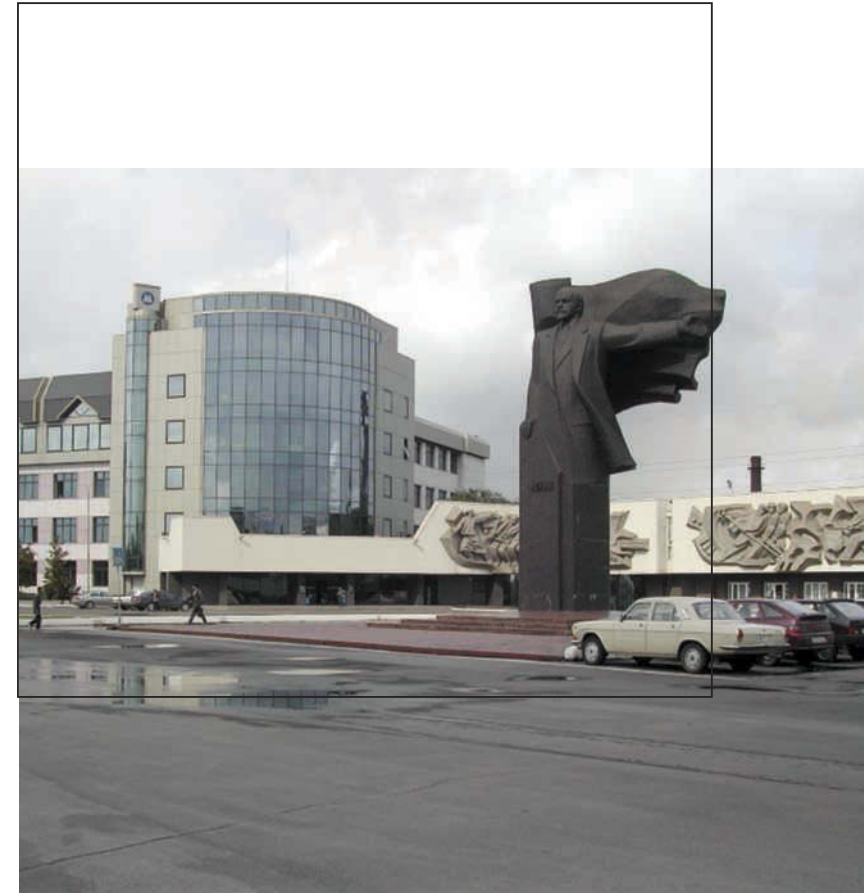
### INDUSTRIAL COOLING IN A HOT SECTOR

Magnitogorsk, southwest Siberia's main industrial city, has a long tradition in the Russian metal sector. This tradition was continued in 2004 with the construction of a new plant by Magnitogorsk Iron and Steel Works (MMK). MMK is Russia's largest steel company, accounting for around 20% of all steel sold on the domestic market. Plus, more than half of its output is exported abroad. During the last decade it has invested heavily in renovation and state-of-the-art technologies to enable the company to maintain its leading position in the country's steel sector.

Daikin chiller technology was chosen to cool the electronic equipment hall in a new 14,000 m<sup>2</sup> plant. Of crucial importance in the choice was reliable performance in the extremely hot conditions typical of the metal industry.



**MAIN EQUIPMENT:**  
2 x EUW200MXY



# METAL INDUSTRY

## *Metaalgieterij Giessens Antwerp, Belgium*

### INDUSTRIAL COOLING FOR THE METALWORKING INDUSTRY

Part of Hayes Lemmerz International, Metaalgieterij Giesen B.V. manufactures aluminum die castings for the automobile and truck sectors as well as the electronic, construction and boiler industry. The group delivers to most of the major automotive and truck manufacturers. Its products include valve covers, transmission housings, electronic housings and compressor parts.

### PROCESS COOLING

When expanding its operations in 2004, a Daikin chiller was chosen to cool its emulsion lubricants during production.



**MAIN EQUIPMENT:**  
1 x EUW120MAX



# TELECOM/ELECTRONIC INDUSTRY

## *Leija Business Centre Vantaa, Finland*

### ENVIRONMENTAL SYNERGY

Business Centre Leija offers a flexible operating environment to companies seeking "environmental synergy." Located in the Environmental Center Leija, its virtues include easy access to major transportation arteries and public transport, and close proximity to the Vantaa Airport. Clientele are largely corporations in the environmental and food technology industries.

Leija prides itself in its ultra-modern IT infrastructure, fully-fledged business, training and lab facilities, and its cost-effective operations. Climate control in this 5,000 m<sup>2</sup> complex includes a Daikin EUW120KXY1 unit



### MAIN EQUIPMENT:

1 x EUW120KXY1

# TELECOM/ELECTRONIC INDUSTRY

*Steria*  
*Nanterre, France*

## TOP OF THE IT WORLD

Steria is a global player engaged in IT consulting, system integration and information management. With sales of over 1.1 billion euro and more than 9000 partners, it is among the top ten groups in Europe in its sector. Its clients are active in the telecom, banking & insurance and public sectors as well as in energy and transportation.

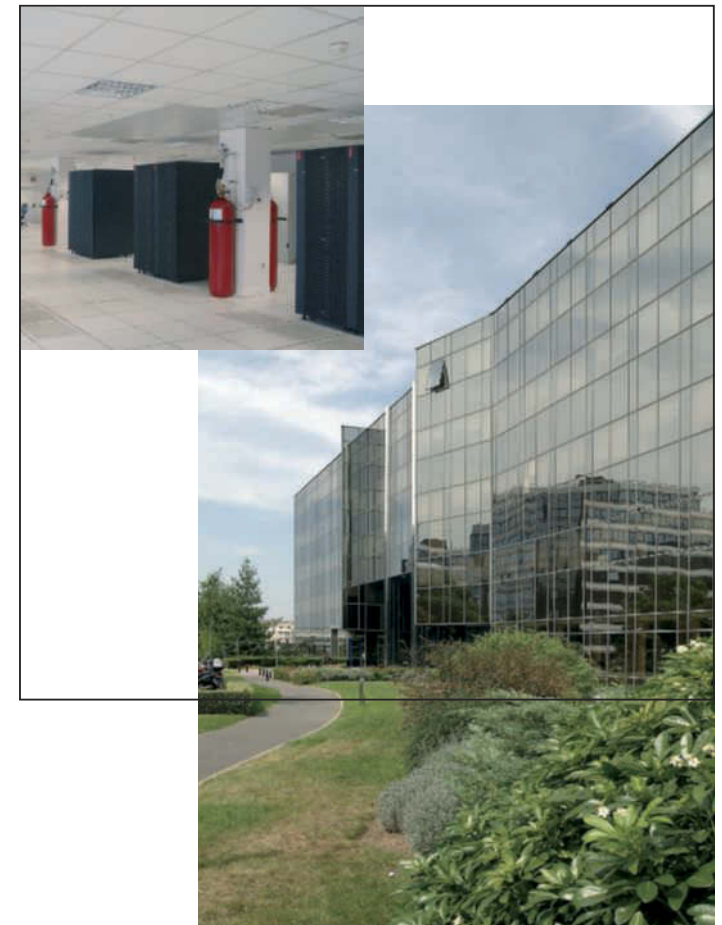
## RELIABLE COOLING BY DAIKIN

In order to provide an optimal operating environment for the IT infrastructure necessary to supply these services, Daikin chiller technology was chosen for its ease of control and its operational reliability. Three chiller units are used, with the control system ensuring that a reserve unit is always available for this critical application.



### MAIN EQUIPMENT:

3 x EUWA120MZY  
1 x DICN control unit



# TELECOM/ELECTRONIC INDUSTRY

## *Hispano-Suiza* *Colombes, France*

### FROM LUXURY CARS TO AIRCRAFT ENGINES

Hispano-Suiza began with the production of luxury cars in France in 1911. The company also quickly entered the growing aircraft market with a rock-solid V-8 engine and later jet engines. Today Hispano-Suiza is part of the French SAFRAN group and focuses on control systems and equipment for aircraft power plants in all segments of the civil and military aviation market. Hispano-Suiza is a high-tech engineering company that takes advantage of its multidisciplinary expertise to develop and produce complex integrated systems that lend operational intelligence to aircraft engines.

### PROCESS COOLING FOR R&D

Its headquarters in Colombes is responsible for all aspects of the design, production and marketing of fixed and rotary-wing engine power transmission. A water-cooled Daikin chiller cools the test hall used to put aerospace equipment through its paces in Hispano-Suiza's ongoing research and development programme.



### MAIN EQUIPMENT:

1 x EUWA180MZY

# TELECOM/ELECTRONIC INDUSTRY

## *Distrito C* *Madrid, Spain*



### NEW COMMUNICATION HEADQUARTERS FOR MAJOR TELECOMS OPERATOR

Spanish Telefonica, a giant among European telecoms operators, has continuously reinvented itself during its long history in order to meet the needs of a changing business and technology climate. The present is no exception.

Distrito C, its new head office in Madrid, symbolises its new business culture and working methods. The 175,000 m<sup>2</sup> project includes offices as well as a shopping centre, restaurants and medical facilities.

A range of Daikin water-cooled chillers handle the climate control. The chillers incorporate the latest Daikin technology with a stepless single screw compressor and flooded evaporator, providing the high Energy Efficiency Ratios required for the project.



### MAIN EQUIPMENT:

14 x EUW300MAXY-SG

12 x EUW200MAXY-SI

4 x EUW175MAXY-SG

# TELECOM/ELECTRONIC INDUSTRY

## *Telindus Group NV* *Ostend, Mons and Haasrode, Belgium*

Founded in 1969, the Telindus Group is an international ICT company providing network-based solutions to address business and public sector needs. It provides top-quality consulting, integration and management services in a broad range of information and communication technology areas including multimedia convergence, video surveillance and integrated security.

Telindus is present throughout the world with headquarters in Belgium. Three of its Belgian facilities make use of flexible Daikin chiller technology for a broad range of climate control needs including comfort cooling for offices, meeting spaces and company cafeterias, as well as cooling for critical computer rooms, production facilities and labs.

### MAIN EQUIPMENT:

Telindus Ostend  
2 x EUWAT50KAX



OSTEND



# TELECOM/ELECTRONIC INDUSTRY



HAASRODE

## MAIN EQUIPMENT:

Telindus Haasrode

2 x EUWA80KBX

2 x EUWA120KBX

3 x EUWAT200KXY

Telindus Mons

1 x EUWA40KBX



# PAPER INDUSTRY

## *Crane AB Tumba, Sweden*

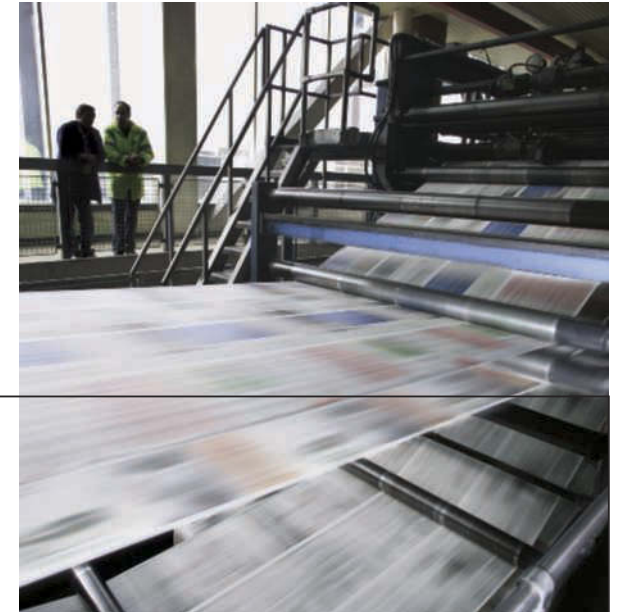
### MAKING MONEY WITH DAIKIN

Crane AB, a subsidiary of US-based Crane & Co., is one of the few companies in the world to handle all aspects of banknote production, from design including security features through printing. It is the only company in the world to have detailed manufacturing knowledge and experience with both the Euro and the US Dollar. Crane is an industry leader in banknote security technology to prevent counterfeiting and forgery. It also produces lottery tickets, securities and passports.

When renovating and upgrading their facility in Tumba, south of Stockholm, 4 Daikin EUWS100KX units were selected to handle their process cooling needs. Critical to their application is the control of humidity in the production environments and stable 5° temperature, as well as the ability to control each unit separately. Close collaboration between Daikin Sweden and contractor Hansson Kyl AB ensured a successful implementation.



**MAIN EQUIPMENT:**  
4 x EUWS100KX



# PLASTIC INDUSTRY

## *Sova-Plastics NV* *Tielt, Belgium*

### ONE-MAN BUSINESS TO SECTOR LEADER

Sova-Plastics NV began in 1983 as a one-man injection moulding business. By diversifying its business to meet customer demand and using a sound strategy of business investments, the company quickly grew into a dynamic company with a unique position in the plastics processing sector. Sova-Plastics NV designs and produces high-quality plastic products for all branches of industry: technical, automotive and medical components, toys, ...

### PROCESS COOLING BY DAIKIN

Quality is paramount in this high-tech sector, and when replacement units were needed to cool its precision injection moulding equipment, Daikin water-cooled chillers were chosen. Daikin simply provided the best quality for the investment required.



### MAIN EQUIPMENT:

4 x EUWA20HD

1 x EUWA20KZ

# AGRICULTURE - HORTICULTURE

*W. Koorneef Nursery  
Maasdijk, the Netherlands*

## GROUND COOLING IN THE HORTICULTURE SECTOR

W. Koorneef Nursery cultivates freesias for the commercial flower industry. Regulating the ground temperature allows the growth rate of individual fields to be adjusted according to market demand.

Their ability to accurately control the temperature per field makes Daikin chillers ideally suited for this application.



### MAIN EQUIPMENT:

1 x EUWD80MX



# AGRICULTURE - HORTICULTURE

## *Apollo Nursery* *Naaldwijk, the Netherlands*

### **MULTI-CHILLER CONTROL VIA DAIKIN INTEGRATED CHILLER NETWORK**

The Apollo nursery cultivates freesias and amaryllises for the commercial flower industry. Ground cooling allows the rate of growth to be controlled according to market demand.

When expanding their operations in 2003, Daikin chillers were chosen for their ability to be linked and controlled via the Daikin Integrated Chiller Network (DICN). This control technology allows up to 4 chillers to be controlled as a single unit.

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#### **MAIN EQUIPMENT:**

- 1 x EUWD100KXY
- 1 x EUWD100MXY
- 1 x EUWD180MXY



# FOOD PROCESSING INDUSTRY

## *Isle of Man Creameries* *Isle of Man*

### A HERITAGE OF QUALITY

Isle of Man Creameries is a co-operative of dairy farmers producing quality cheeses according to the traditional methods and culinary heritage of this lush island. The milk from the farms is carefully made into creamy cheddar cheese, which when aged becomes the basis for a range of award-winning dairy products. All processing is done on the Island itself using complementary herbs, spices and traditional smoking methods.

In 2004, Isle of Man Creameries replaced its process installations, opting for Daikin's chiller technology to provide chilled water to the production plant and creamery.



### MAIN EQUIPMENT:

EUWA100MZY-D + remote digital controller  
EUWAT60MY1

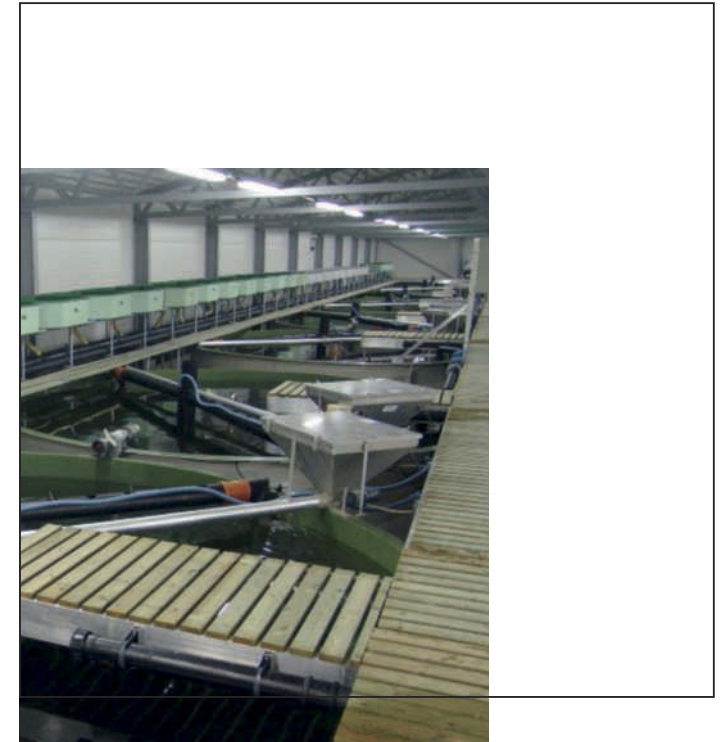
# FOOD PROCESSING INDUSTRY

## *Fjord seafood ASA Kongsmoen, Norway*

### EXCELLENCE IN SEAFOOD

Established in 1996, Fjord Seafood is a leading supplier of value added seafood to customers in Asia, Europe and the USA. The Norway-based company is listed on the Oslo Stock Exchange, and prides itself in its attention to customer needs, quality, innovation and its environmental focus. The Fjord Seafood product range includes fresh, frozen, smoked, snacks and ready-to-eat meals. It has processing facilities in a number of countries including Belgium, the Netherlands and France as well as Chile and the USA. It is also one of the world's largest aquaculture players with salmon aquaculture operations in Norway, Scotland and Chile.

In 2004, one of its four Norwegian farming locations, the Kongsmoen hatchery, needed heating, evaporating and condensing capacity with a precision down to 0.1°C. The inherent accuracy in Daikin chiller and control technology allowed it to meet these specifications with ease.



### MAIN EQUIPMENT:

2 x EUWT160KXSDT1

1 x EUW160MAXSDY1



# TAILOR MADE SOLUTIONS

*Can't find what you need in our standard product range? Daikin can custom design a chiller-based system for special applications. Extra low leaving water temperatures (to -15° C) and special condenser handling are among the possibilities. Special applications include under-floor heating, heat reclaim projects and skating rinks. Daikin chillers are optimised for rapid electrical and piping connections, variable chassis arrangements and lower temperature operation.*

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# WINERY

## *Champagne Thiénot* *Taissy, France*

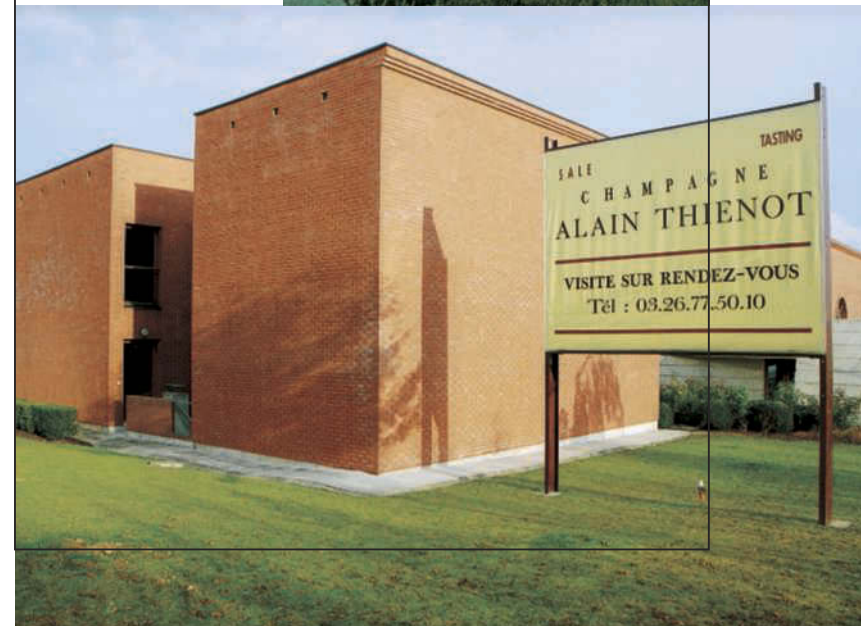
### A PASSION FOR WINE, AN OBSESSION FOR QUALITY

The history of Champagne Thiénot began quite recently. Originally a banker in Paris, in the eighties Alain Thiénot answered the call of his native Champagne terroir. Learning the wine business as a champagne trader, he soon bought a few hectares of vineyards among the Grands Crus of Champagne (Ay and Mesnil sur Oger). Then followed the acquisition of a superb house in Reims. Finally, after many years of tasting and selecting, Alain Thiénot had found his style and in 1985 the Thiénot house was born. Meticulous and demanding, Alain Thiénot manages an establishment that is among the best of the champagne houses, delivering wines of exceptional quality.

Strict control of the quality and maturity of the grapes allow a high quality blend. Modern stainless steel vats with controlled fermentation temperature allow the best vinification. The Thiénot obsession for quality extends to all aspects of the operation. A Daikin chiller was chosen to keep the fermentation processes within the tanks containing over 20,000 hl of precious liquid at an optimal temperature.



**MAIN EQUIPMENT:**  
1 x EUWA120KBXY



# WINERY



## *Château Carbonnieux* *Pessac Léognan - France*

### A NEW GOLDEN AGE

Château Carbonnieux, located 10 kilometres from Bordeaux, overlooks one of the largest vineyards in the Graves region. From its beginning, this 700-year old renowned wine estate has shared in the turbulent history of this region, a history covering 3 major wars, natural disasters, and economic crises. It has currently been fully restored and is undergoing a new golden age in the production of exceptional red and white Graves cuvées.

The vineyard owners apply a healthy balance of nature and technology. Central to their strategy is careful management of the individual vineyard plots. This is followed by meticulous follow-up of the fermentation process in the cellar, with the wine from each plot being fermented separately. To regulate the critical fermentation temperature of the vats, Daikin chiller technology was selected for its reliability and precision temperature control. Attention to these minute – yet crucial – details makes all the difference in winemaking.



**MAIN EQUIPMENT:**  
1 x EUWA60KBXY



# INDUSTRIAL APPLICATION

## *Wymar* *Oeselgem, Belgium*

### INDUSTRY LEADER IN THE PLASTICS SECTOR

Founded in 1952, Wymer International NV began as a producer of injection-moulded plastic household and packaging articles. The company expanded into PVC window and doorframes, and opened branches and made investments throughout Europe and beyond. Now part of the international chemical concern, the Tessenderlo Group, the company has continued its expansion into Eastern Europe and Russia.

### LONG-TIME DAIKIN CUSTOMER

Wymer is a leader in the field of PVC extrusion, with one of the most modern factories in Europe. It has been a faithful Daikin customer for some 18 years, with all of its process cooling needs being handled by Daikin equipment. When renovating its facilities in 2004, Daikin was again chosen due to its ability to meet the specific requirements of the plastics industry.



**MAIN EQUIPMENT:**  
1 x EUWL120MX

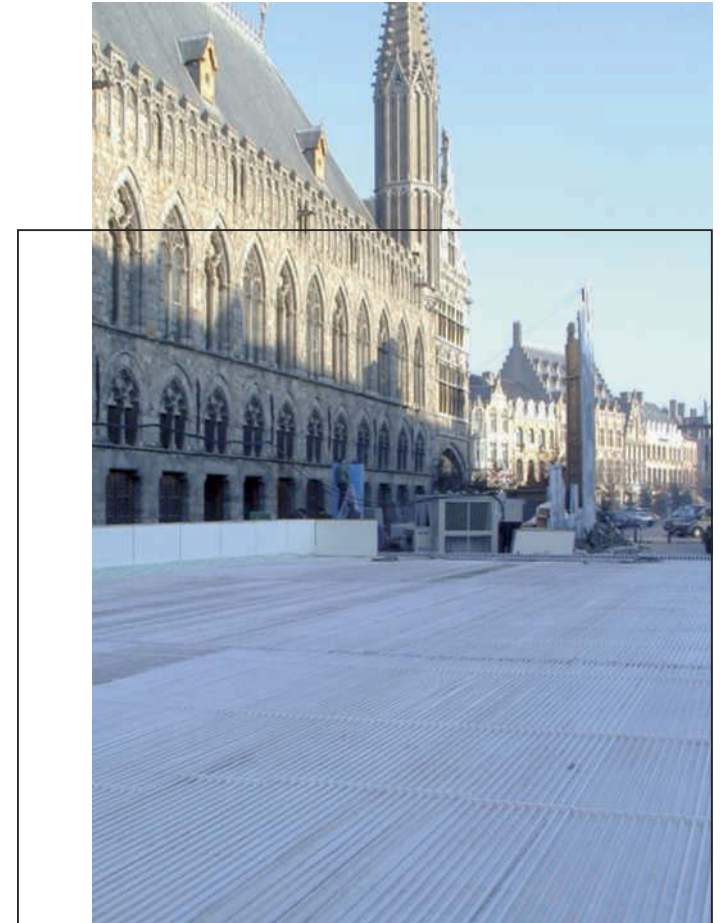
# RENTAL BUSINESS

## *Outdoor Ice Rink Ypres, Belgium*

### FROM MARKET SQUARE TO CHRISTMAS ICE RINK IN 4 DAYS

The task was clear. Convert a 450 m<sup>2</sup> area in the market square of the Belgian city of Ypres into an outdoor ice rink in 4 days time. Constraints: power consumption for the task was limited to 250 A, and the specifications called for performance in outdoor temperatures up to 20°C.

Efficiency, ease of installation, low energy consumption: a challenge ready made for Daikin chiller technology. The metres of piping and the two air-cooled chillers were in place by day three, leaving the better part of two days for creating the 15 cm of ice needed to skate on. The rink was in use by the evening of the fourth day. The two large chillers make use of the Daikin Integrated Chiller Network (DICN) to operate as a single unit.



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Tailor Made Solution



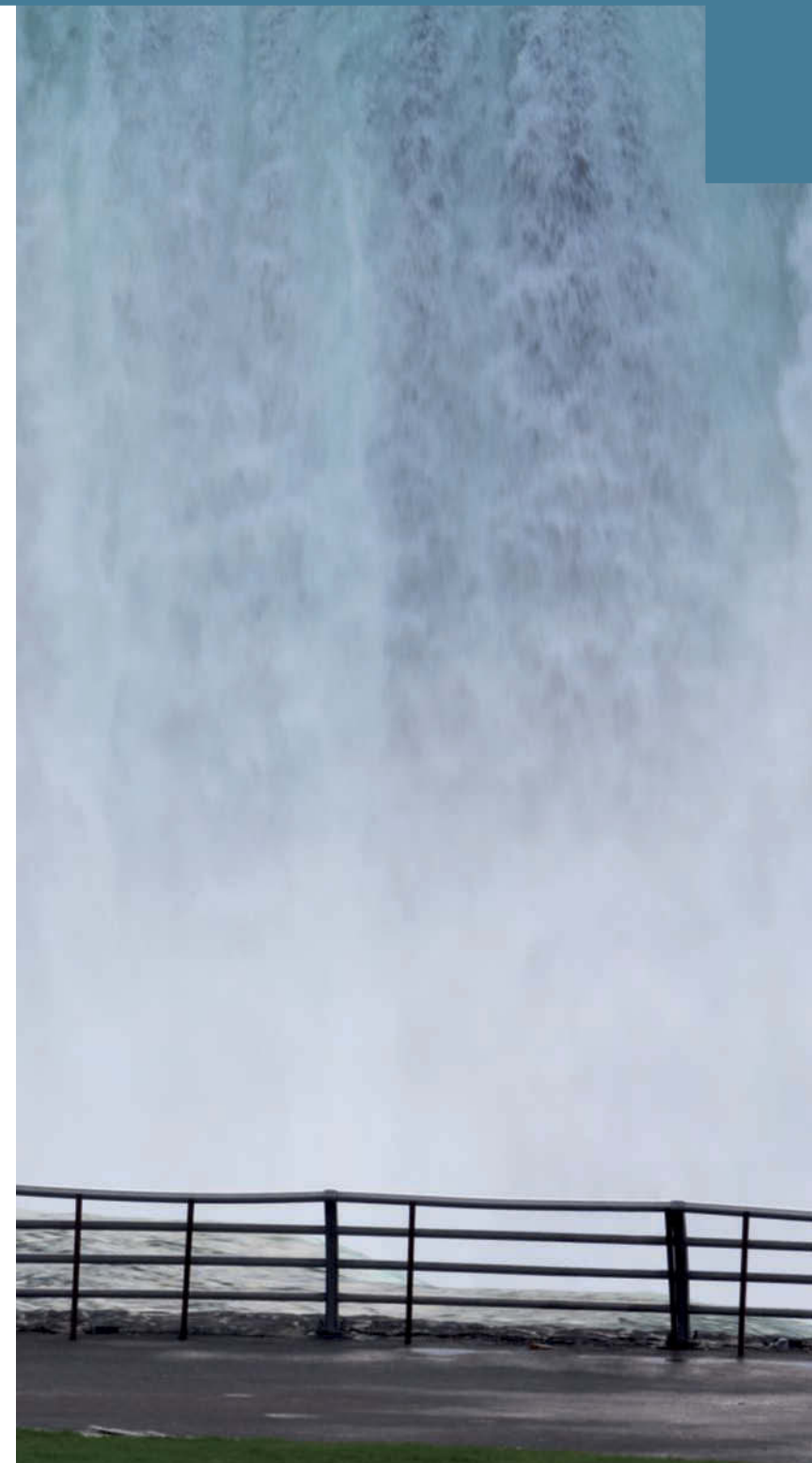
**MAIN EQUIPMENT:**  
2 x EUWA60MZY  
with DICN

# CD WITH VIDEO PRESENTATIONS ENCLOSED

*Want to take a more “moving” look at our chiller references?  
A video presentation of a number of the reference sites referred  
to in this catalogue is available on the attached CD.*

- > Nine industrial chiller applications demonstrate Daikin’s high performance chillers at work in the food processing, agriculture/horticulture, electrical, metal, fish farming and plastic processing industries.
- > One special application, an ice rink constructed from scratch for the winter holiday season, demonstrates Daikin’s expertise in dealing with critical cooling requirements in just about any situation!

Simply insert the CD and make your selections from the menu. Each section (industrial or special) can be viewed in its entirety, or you can select a specific application for viewing via the reference sites drop down menu.







Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.



Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory. Certification is valid for air cooled models <600kW and water cooled models <1500kW.

#### **DAIKIN EUROPE N.V.**

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