



ARISTON
The home of sustainable comfort



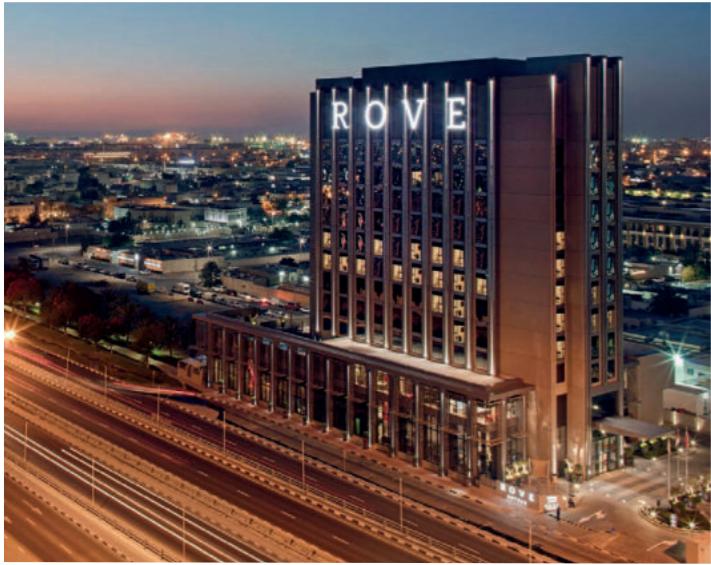
A more **sustainable**
world starts at **home**

PROJECT REFERENCE BOOK



Introduction to case studies featured.

Ariston Middle East delivers social and economic benefits to the contracting industry in the Middle East through sustainable solutions for water heating. The following case studies demonstrate how Ariston Middle East leverage its research and innovation to offer excellent social and economic benefit to clients across the spectrum.



Rove Healthcare City, Dubai.

/ The opportunity

Placed in the heart of Dubai the Rove Healthcare City is a 3-star hotel with 286 rooms. The building needs a total of **10.000 l per day of hot water stored at 60°C for a total annual requirement of 145.840 kWh**.

/ The challenge

The proposed solution consisted in a solar and gas boiler integrated system to cover the hot water demand requirements, by utilizing the free solar energy generated by the collectors to pre-heat the water and the backup and main heating through the gas boilers.

/ Approach

The solar system was created by installing **KAIROS XP 2.5-V** solar panels placed on the roof of the building and 4 **MAXIS CD1 2500** single coil hot water storage tanks installed in a dedicated room. The solar energy preheats the water inside the cylinders before it is sent to the boilers to reach the desired temperature. The boiler system consists of 4 GENUS EVO PREMIUM HP 150 in cascade with in line mounting and installed in a dedicated room together with the cylinders. The hydraulic circuit of the boilers is separated from the water circuit for the users and the heat exchange takes place via an external plate heat exchanger. The solar system covers around **53.7% of the overall energy consumption significantly reducing CO2 emissions** and gas consumption.

BUILDING DATA

Type of application:	hotel
Number of buildings:	1
Number of rooms:	286
Hot water demand:	10.000 l/day @60°C
Total annual energy requirements:	145.840 kWh

PLANT TECHNICAL DATA

Feeding category:	solar - gas
Heat production technology:	solar collectors - wall hang boiler condensing
Solar system power:	46,86 kW
Solar collectors quantity:	26
Storage tanks capacity:	2.500 l
Storage tanks quantity:	4
Boiler power:	150 kW
Boiler quantity:	4
Boiler system power:	600 kW
Type of installation:	cascade on line
Energy coverage of the solar system:	53,7%
Solar system annual energy contribution:	80.042 kWh
CO2 Emissions avoided:	29.531 kg
Natural gas savings:	13.965 m³



/ Installed products



**GENUS PREMIUM
EVO HP 150**

High power condensing boiler

- / Nominal heat input Hi max/min: 140/35 kW
- / Nominal heat output at 80-60°C max/min: 136/34 kW
- / Nominal heat output at 50-30°C max/min: 150/38 kW
- / Efficiency at 80-60°C full/min load: 97,3/98,4 %
- / Efficiency at 50-30°C full/min load: 106,1/108,5 %
- / Efficiency at 30%load 30°C: 108,5 %



CYLINDER MAXIS CD1

Floor-standing vertical single-coil cylinder for the production of domestic hot water. Integrable with forced circulation solar system or high power heating system.

- / Titanium enameled steel boiler
- / Maximum operating pressure: 8 bar
- / maximum temperature: 95°C
- / Capacity: 2.500 l



KAIROS CF 2.0-1 V

High efficiency flat solar collector for forced circulation, solar Keymark certified.

- / Gross surface: 2,53 m²
- / Aperture surface: 2,26 m²
- / Absorbent surface: 2,24 m²
- / Optical efficiency: 81%
- / Temp. stagnation: 198°C



Tasman Residential Complex, Sochi, Russia.

/ The opportunity

The TASMAN residential complex is placed in the center of Sochi, 400 meters from the sea. It is a single 12-storey building with a total of 368 apartments. The requirement was a centralized gas heating system with low noise impact to guarantee the maximum comfort of residents and with compact dimensions due to the small size of the boiler house.

/ The challenge

The design idea was a system of several wall hang condensing boilers in cascade installed on the roof boiler house of the building. The boilers operate on the heating circuit and deal with the production of domestic hot water.

/ Approach

The most suitable technical solution was the selection of N° 6 **THISION L ECO 120** in cascade with back-to-back mounting. Thus, a **deep modulation of power from 17 to 720 kW** is provided to precisely match the performance of the boilers to the current load throughout the heating period. The cascade of boilers is controlled by the **LOGON B** controller according to a 0-10 V signal. The compact dimensions of THISION L ECO made it possible to minimize the area of the boiler room. The back-to-back

BUILDING DATA

Type of application: residential complex

Number of buildings: 1

Number of apartments: 368

Apartments surface: from 34 to 73 m²

Apartments average height: 3 m

Energy classification of building: B

PLANT TECHNICAL DATA

Feeding category: gas

Heat production technology:
wall hang boiler condensing

Heating system type: radiators

Number of boilers: 6

Boiler power: 120 kW

Total Installed power: 720 kW

Type of installation: cascade back-to-back



cascade configuration covers less than 2,5 sm. Furthermore, using the quick connection kit, the installation was carried out without any type of welding. Finally, thanks to the low noise level from the boilers, **less than 53 dB** at maximum power, the comfort of the residents of the house is guaranteed.

/ Installed products

THISION L ECO 120

High power condensing boiler



Nominal heat input Hi max/min: 123/18 kW

Nominal heat output at 80-60°C max/min: 120/18 kW

Nominal heat output at 50-30°C max/min: 130/19 kW

Efficiency at 80-60°C full/min load: 97,6/97,8 %

Efficiency at 50-30°C full/min load: 105,7/107,8 %

Efficiency at 30%load 30°C: 108,9 %



BUILDING DATA

Type of application: public building

Number of buildings: 1

Total surface area : 2600m²

Floors number: 3

PLANT TECHNICAL DATA

Feeding category: gas

Heat production technology:
floor standing boiler condensing

Number of boilers: 4

Boiler power: 1.100 kW

Total Installed power : 4,4 MW

Shopping Center, Dolgoprudny (Russia).

/ The opportunity

The shopping center is one of the largest in Dolgoprudny (Russia) and is located in the most densely populated area of the city. It consists of 3 floors with a total area of 26.000 m².

The request was to provide a system able to satisfy the heating needs of the entire building and to be easily installed in the small boiler house placed on the roof of the building.

/ The challenge

The design idea was a centralized gas system of several floor standing condensing boilers in cascade installed on the roof boiler house of the building. The boilers operate on the heating circuit and deal with the production of domestic hot water.

/ Approach

The most suitable technical solution was the selection of N° 4 **TRIGON XXL SE 1100** in cascade controlled by the LOGON B controller according to a0-10V signal 0-10 V signal from an external controller.

A deep modulation of **power up to 4,4 MW** is provided to precisely match the performance of the boilers to the current load throughout the heating period.



The small footprint of TRIGON XXL made it possible to minimize the area of the boiler room.

Furthermore, the low weight of the boilers and their modularity allowed for easy transport and installation on the roof of the building. Design, supply and installation were performed in just three months.



/ Installed products

TRIGON XXL SE 1100

Floor standing high power condensing boiler

- / Nominal heat input Hi max/min: 1159/290 kW
- / Nominal heat output at 80-60°C max/min: 1073/270 kW
- / Nominal heat output at 50-30°C max/min: 1074/298 kW
- / Efficiency at 80-60°C full/min load: 92,6/93,2 %
- / Efficiency at 50-30°C full/min load: 92,6/102,6 %
- / Efficiency at 30%load 30°C: 102,6 %





BUILDING DATA

Type of application: Hotel chain

Number of buildings: 1

Heating Capacity required: 1200KW

Total annual energy requirements: 150KW for 80C

PLANT TECHNICAL DATA

Feeding category: water

Heat production technology:

Gas Boiler

Nominal heat input: 140KW

Number of gas boiler: 5

Movenpick Hotel , Dubai.

/ The opportunity

Movenpick Hotel in Dubai believes the greatest indulgence is giving back to create a brighter future, a refreshing approach that has made the hotel group a sustainability leader. Keeping this in mind, the hotel management were looking for water heating solutions that would reflect their belief.

/ The challenge

The 5 Star property of Movenpick required an Efficient solution for Water Heating that also was sustainable.

/ Approach

Ariston suggested installing Genus Premium EVO, the efficient condensing gas boiler.

Ariston set up 8 Condensing gas Boilers - **GENUS**

PREMIUM EVO 150 kW that come with up to 97%

efficiency. Being a commercial property, the heating capacity required was around **1200 kW** and GENUS PREMIUM EVO is a high-power boiler range ideal for installations requiring high power, such as commercial buildings or complex residences. This high-powered product provides comprehensive and integrated solutions for meeting the contemporary heating requirements of collective condominiums. It includes all the necessary components for constructing modular systems. Equipped



with electronic boards and control panels, it facilitates the management of even intricate systems. Its elegant aesthetics, created in collaboration with Italian designers focus on meticulous details, while its silent operation respects the tranquillity of consumers' daily lives.

/ Outcome

Ariston's GENUS EVO HP consists of condensing gas boilers with remarkable efficiency, ensuring optimal energy utilization and improved performance. This solution was perfectly suited for maximizing energy efficiency and enhancing overall operational effectiveness at reduced noise levels.

/ Installed products



**GENUS PREMIUM
EVO HP 150**

High power condensing boiler

/ Nominal heat input Hi max/min: 140/35 kW

/ Nominal heat output at 80-60°C max/min: 136/34 kW

/ Nominal heat output at 50-30°C max/min: 150/38 kW

/ Efficiency at 80-60°C full/min load: 97,3/98,4 %

/ Efficiency at 50-30°C full/min load: 106,1/108,5 %

/ Efficiency at 30%load 30°C: 108,5 %



Yotel Hotel, Dubai.

/ The opportunity

YOTEL Hotel in Dubai, known for its commitment to sustainability, sought water heating solutions aligned with their values. Ariston recommended the installation of the TRIGON XXL, an efficient condensing gas boiler, as part of their dedication to giving back and creating a brighter future through responsible choices.

/ The challenge

YOTEL Hotel required an efficient solution for Water Heating in huge capacity in their 5-Star property at Dubai.

/ Approach

To meet a heating capacity demand of approximately 4488 kW, Ariston opted for the installation of three **TRIGON XXL** boilers, each with a **1500 kW rating**. The choice of TRIGON XXL 1500, a floor-standing, high-powered condensing boiler, emerged as the most suitable technical solution. These boilers offer precise power modulation, ensuring an optimal match with the heating requirements throughout the entire heating season. What further enhances their suitability is the compact footprint of the TRIGON XXL, which minimizes the space required in the boiler room. Additionally, the boilers' lightweight construction and modularity make transportation and installation straightforward and convenient.

BUILDING DATA

Type of application: Hotel chain

Number of buildings: 1

Heating Capacity required: 4488KW

Total annual energy requirements: 290W for 80C

PLANT TECHNICAL DATA

Feeding category: water

Heat production technology:
Gas Boiler

Nominal heat input: 290KW

Number of gas boiler: 3



/ Outcome

Ariston's decision to employ three TRIGON XXL 1500 kW boilers addressed the substantial heating needs efficiently. Their power modulation capability, space-saving design, and ease of handling underscored the practicality and effectiveness of this heating solution. With 97% efficiency, the condensing gas boilers at this commercial property offer energy conservation, cost reduction, and decreased carbon emissions, providing substantial advantages for sustainability and financial savings.



/ Installed products



TRIGON XXL SE 1100

Floor standing high power condensing boiler

- / Nominal heat input Hi max/min: 1159/290 kW
- / Nominal heat output at 80-60°C max/min: 1073/270 kW
- / Nominal heat output at 50-30°C max/min: 1074/298 kW
- / Efficiency at 80-60°C full/min load: 92,6/93,2 %
- / Efficiency at 50-30°C full/min load: 92,6/102,6 %
- / Efficiency at 30%load 30°C: 102,6 %



One Hotel, Dubai.

/ The opportunity

ONE Hotel, is a landmark development at Business Bay, developed by The First Group and managed by the Millennium & Copthorne Hotels. Located in one of the prime business district of Business Bay, this hotel is a high profile development. This 4-star hotel will offer a total of 492 rooms looks like an ideal choice for the many business travellers and tourists coming to Dubai.

/ The challenge

ONE Hotel in Dubai has high visibility within the hospitality industry making it a good reference for Ariston Middle East

/ Approach

To meet the substantial heating capacity demand of around **1300 kW**, Ariston selected a solution involving the installation of two **TRIGON XXL** boilers, each boasting a **650-kW rating**. The decision to employ the TRIGON XXL 650, a floor-standing, high-capacity condensing boiler, proved to be the ideal technical choice. These boilers offer precise power modulation, ensuring an optimal match with heating requirements throughout the entire heating season. What further enhances their suitability is the compact footprint of the TRIGON XXL, minimizing the space required in the boiler room. Additionally, the boilers' lightweight construction and modular design make transportation and installation straightforward and



BUILDING DATA

Type of application: Hotel chain

Number of buildings: 1

Heating Capacity required: 1300KW

Total annual energy requirements: 290W for 80C

PLANT TECHNICAL DATA

Feeding category: water

Heat production technology:
Gas Boiler

Nominal heat input: 650KW

Number of heat pumps: 4

Number of gas boiler: 1

convenient. This strategic selection of TRIGON XXL boilers exemplifies Ariston's commitment to providing efficient and space-saving solutions while meeting the demanding heating needs of the project.

/ Outcome

Opting for 2 TRIGON XXL 1300 kW boilers, Ariston effectively tackled the substantial heating requirements. These boilers' power modulation, compact design, and user-friendliness emphasized the practicality and efficiency of the heating solution. With an impressive **97% efficiency** rate, these condensing gas boilers at the commercial property excel in energy conservation, **cost reduction**, and **carbon emissions reduction**. This delivers significant benefits for **sustainability** and **financial savings**, reinforcing Ariston's commitment to environmentally responsible and cost-effective heating solutions.

/ Installed products



TRIGON XXL SE 1100

Floor standing high power condensing boiler

- / Nominal heat input Hi max/min: 1159/290 kW
- / Nominal heat output at 80-60°C max/min: 1073/270 kW
- / Nominal heat output at 50-30°C max/min: 1074/298 kW
- / Efficiency at 80-60°C full/min load: 92,6/93,2 %
- / Efficiency at 50-30°C full/min load: 92,6/102,6 %
- / Efficiency at 30%load 30°C: 102,6 %



Rove City Walk, Dubai.

/ The opportunity

Rove Hotels defines a new niche in the ever-evolving global hospitality sector and is reliable, modern, and efficient. This commercial property established in 2020 required water heating solutions at their upcoming 5-star property.

/ The challenge

To come up with an efficient solution for Water Heating at their 5-star property.

/ Approach

To meet the requirement Ariston offered the full heating solution. Ariston installed condensing gas Boilers with up to **97% efficiency with a solar pre-heating system**. The heating system consisted of 5 **GENUS EVO 100** with Solar Panels and storage Tanks with huge capacity. The hydraulic circuit of the boilers is separated from the water circuit for the users and the heat exchange takes place via an external plate heat exchanger. The proposed solution consisted of a solar and gas boiler integrated system to cover the hot water demand requirements, by utilizing the free solar energy generated by the collectors to pre-heat the water and the backup and main heating through the gas boilers.

BUILDING DATA

Type of application: Hotel chain

Number of buildings: 1

Heating Capacity required: 221KW

Total annual energy requirements: 290W for 80C

PLANT TECHNICAL DATA

Feeding category: water

Heat production technology:
Gas Boiler

Nominal heat input: 650KW

Number of gas boiler: 2



/ Outcome

The solar heating system set up at Rove City Walk covers a huge amount of the overall energy consumption. It significantly reduces CO2 emissions and gas consumption.

/ Installed products

GENUS PREMIUM EVO 100 HP

High power condensing boiler

- / Nominal heat input Hi max/min: 88,3/22,1 kW
- / Nominal heat output at 80-60°C max/min: 86,1/21,9 kW
- / Nominal heat output at 50-30°C max/min: 94,0/24,1 kW
- / Efficiency at 80-60°C full/min load: 97,5/98,4 %
- / Efficiency at 50-30°C full/min load: 106,5/108,1 %
- / Efficiency at 30%load 30°C: 108,1 %







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