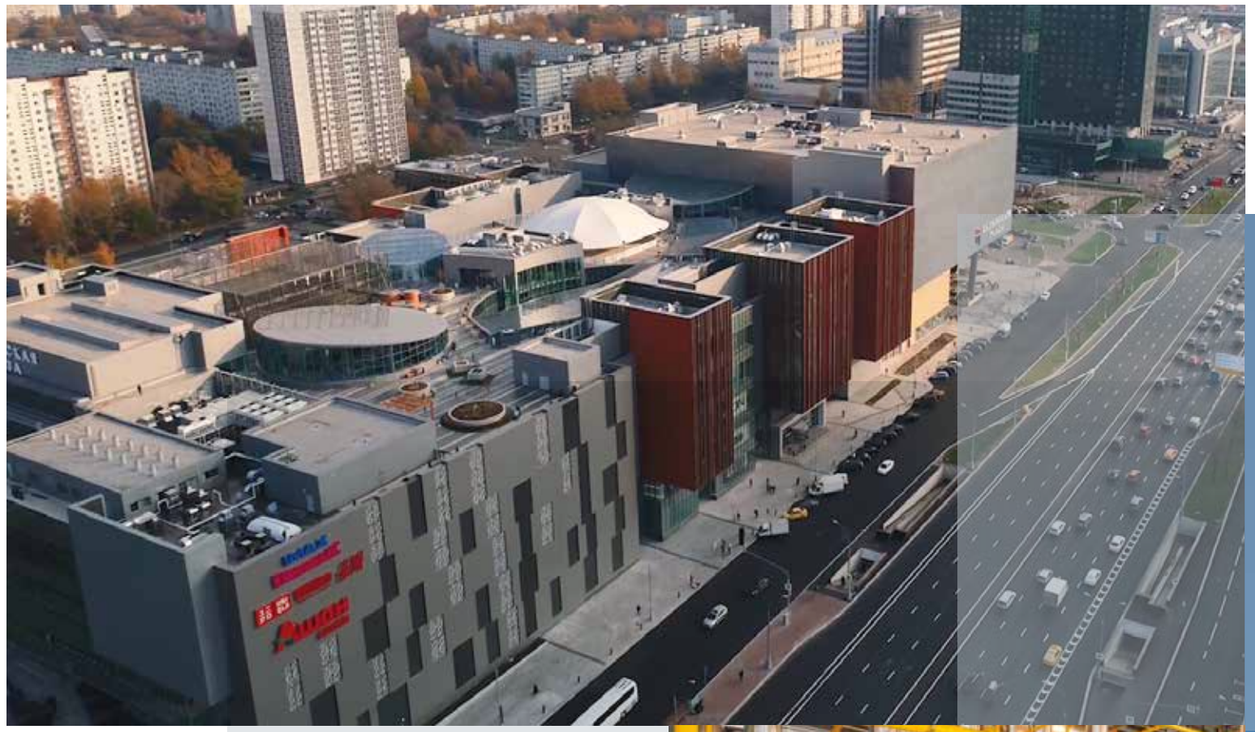


References for commercial heating solutions

More information

www.elco.net

The premium heating solution provider of a first class service aimed at meeting the needs of consumers throughout the life cycle of its systems and products.

For decades ELCO has been at the forefront of burner, condensing boiler and solar technology, installing over 1.7 million heating systems throughout Europe.

Powered by solutions!

Since 1928 ELCO has been a leading European brand offering smart solutions and technologies designed to meet the needs of commercial project, ensuring maximum energy saving.

Commercial heating solutions

ELCO manufactures the highest quality of condensing gas boilers with an output of up to 2 MW from a single unit - offering substantial benefits, including superb efficiency, ultra-low energy consumption and the lowest environmental impact. ELCO also manufactures a wide range of highly sustainable commercial heat pumps, and a flexible range of combined heat and power units. So, from a 1:1 replacement to the most complex commercial system, specifiers can choose the right ELCO product for their application.

CONTENTS

TYPE: Renovation
SECTOR: Hotels

Studley Castle

Studley, UK

Luxury hotel benefits from ELCO boilers

As part of a major refurbishment, the 180-year-old Studley Castle in Warwickshire needed to refurbish its boiler plant to provide hotel guests with highly efficient and reliable heating and hot water generation. ELCO supplied bespoke INOX-MAXI cylinders alongside TRIGON® XL boilers, designed to cope with the peak hot water demands and provide reliable hot water delivery all year round.

The challenge

The new equipment needed to provide heating and hot water to the entire building, including: 209 bedrooms, which are spread across the main castle building and newly built accommodation wing; leisure facilities, with heated swimming pool and treatment rooms; restaurants, bars and entertainment venues; plus the main kitchen facilities. Space heating is supplied by radiators throughout the main castle building, while external areas and the entertainment venues utilise air handling units (AHUs) connected to the primary system.

When designing the provision of hot water, building services contractors for the project, LJJ, were acutely aware the system needed to deliver plentiful DHW for peak periods of demand. They had to factor in early mornings when guests shower before breakfast, as well as key points throughout a day to coincide with hotel entertainment finishing.

Comment

Commenting on the project, Mechanical Contracts Manager at LJJ, Gerry McNally, said: "This was a prestigious project and therefore required a carefully designed, high quality heating system. We specified ELCO boilers for a number of reasons, but one of the most important was the longevity of the units and the guarantee of parts availability for many years to come. With the boilers utilising a stainless steel heat exchanger, we were satisfied that the equipment would be highly durable and reliable in this intense commercial application."

Featured products:

TRIGON® XL

INOX-MAXI

The TRIGON® XL represents a significant step forward in heating technology.

With extremely flexible configurations, clever design and a range of models available, the boiler is perfect for a variety of commercial applications. Plus, extensive cascade arrangements of up to 8 boilers with a combined output of 4,560kW are possible.

INOX-MAXI hot water cylinders can be supplied as direct or indirect and with either single or twin coils.

Plus, with hot water buffer storage vessels and capacities from 450 to 3,000 litres, the designer of commercial hot water systems is well provided for with the INOX-MAXI range.

- Unique heat exchanger with HEX³ geometry for class leading NOx and CO emissions
- Extremely high efficiency
- Robust stainless steel heat exchanger
- Low water content boiler
- Compact dimensions
- Can be easily dismantled and reassembled on site

The ELCO solution

To fulfil the property's complex requirements, three ELCO TRIGON® XL 570kW floor standing boilers were specified and installed on the first floor of the main castle building, alongside eight bespoke INOX-MAXI cylinders. The TRIGON® XL range of floor standing gas condensing boilers were specified for their longevity, thanks to a stainless steel heat exchanger, and the guarantee of parts availability for many years to come. The boilers also offer ultra-low NOx emissions complying with class 6 (2018) requirements, an 8 bar working pressure, 30k flow/return temperature differential, superb seasonal efficiencies and an ultra-compact footprint.

A complete service

ELCO Heating Solutions supported the project throughout the entire process, from the initial system designs, through to the delivery and commissioning of the units - ensuring the project ran smoothly throughout.

Benefits

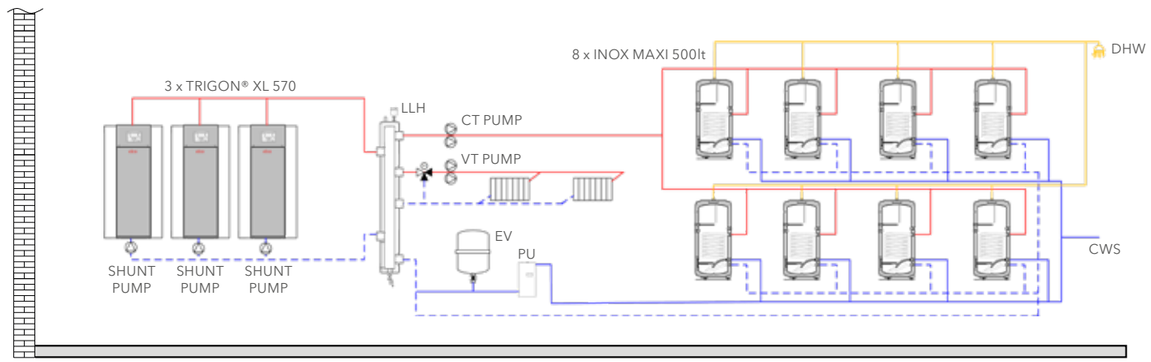
TRIGON® XL

96.4%* Gross Seasonal Efficiency for UK

NOx class 6 annual emissions (EN15502)

8bar Maximum working pressure

System Schematic



The plant scheme:

- 3 x 570kW TRIGON XL® floor standing boilers
- 8 x bespoke INOX-MAXI cylinders
- 1 x low loss header

TYPE: Renovation
SECTOR: Education

Cromwell School

Birmingham, UK

Primary School benefits from ELCO boilers

Five THISION® L ECO 120kW boilers from ELCO Heating Solutions have been installed at Cromwell Junior and Infants School, Birmingham, as part of the complete refurbishment of the plant room. The new boilers have been arranged back to back on a cascade frame with a pre-fabricated header system – maximising the output in a restricted area.

The challenge

As the original boilers were located in a basement plant room below the school, they first needed to be broken into sections and then removed using specialist lifting gear through the narrow winding staircase.

Fortunately, bringing the new ELCO boilers into the plant room was far simpler, thanks to their compact and lightweight design. However, they still needed to fit within the restricted headroom and provide excellent efficiencies, which was overcome by utilising the THISION® L ECO boilers' cascade system.

Comment

The M&E contractors for the project were Staffordshire Mechanical Solutions (SMS). Commenting on the refurbishment, Dave Seward, Operations Director, said: "The new boilers were ideal in terms of their size, weight and the floor space required, so we've been really impressed with these units from ELCO. They also have an excellent reliable design and the fact they're backed by a five-year warranty is always reassuring. The school is sure to benefit from far higher efficiencies, which should have a significant impact on the running costs of the heating and hot water system." Commenting on the project, Samrina Banaris, Head of Core Services at Cromwell School, said: "We've been incredibly pleased with the installation. The new boilers are running perfectly and will provide significant energy savings for the School for many years to come."

Featured products:

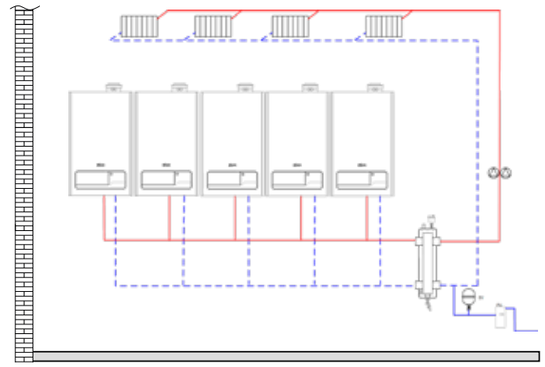
THISION® L ECO

The THISION® L ECO combines high quality engineering with state-of-the-art components to produce a class-leading boiler.

- Unique heat exchanger with HEX³ geometry for class leading NOx and CO emissions
- Extremely high efficiency
- Robust stainless steel heat exchanger
- Extensive cascade arrangements up to 960kW
- FREE commissioning and training

hex³

System Schematic



The plant scheme:

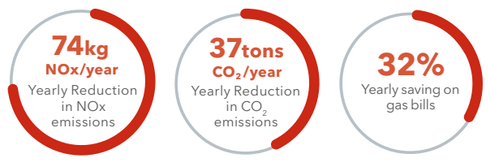
- 5 x 120kW THISION® L ECO boilers in back to back cascade
- Low loss header
- Minifill Pressurisation Unit and system expansion vessel

The ELCO solution

The new energy efficient THISION® L ECO boilers were carefully moved into position and installed on a freestanding cascade frame, with three units backing two more to provide a combined output of 600kW. The installation also comprised new header kits and pumps, with a large proportion of the original pipework being reused.

Benefits

THISION® L ECO



From ageing and inefficient standard boilers to modern gas condensing units from ELCO

The new ELCO boilers easily met the requirements of the project, thanks to a unique HEX³ geometry in the heat exchanger, as well as a flatbed burner, which both provide the boilers with exceptional performance. These two components also allow 5 THISION® L ECO boilers to operate at maximum efficiency, while keeping NOx and CO emissions extremely low.

TYPE: Renovation
SECTOR: Education

Alban Manor

St Albans

ELCO revisits care home to upgrade boilers and deliver impressive energy savings

ELCO Heating Solutions has returned to Alban Manor care home in St Albans to upgrade its commercial heating plant with the latest floor standing boiler technology on the market.

The challenge

The project involved the removal of three ageing boilers that, after two decades of reliable operation, had reached the end of their lifecycles and had become inefficient to run. The replacement of the units with ELCO's new TRIGON® L PLUS boilers represents a major upgrade, with the new models offering a range of technological firsts.

Comment

Farnborough-based heating contractors, Plant and Pipewerx Ltd (appointed by project managers Netheat), undertook the refurbishment of the care home's heating systems. Commenting on the installation, Craig Cooper, Contract Manager, said: "The old units had done a great job over the years, but it was clear that they needed to be replaced with new boilers to improve the overall efficiencies of the heating and hot water system. The new TRIGON® L PLUS are the perfect replacement with a compact size to power ratio and, by increasing individual boiler outputs, we've managed to reduce the total number of boilers in the plant room from three to two – which saves a bit more space."

Craig continued: "As far as the installation is concerned, everything went in without a hitch. The boilers were compact enough to easily transport to the rooftop plant room and, after changing the flue sizing and arrangement from three to two, we were able to get them quickly installed."

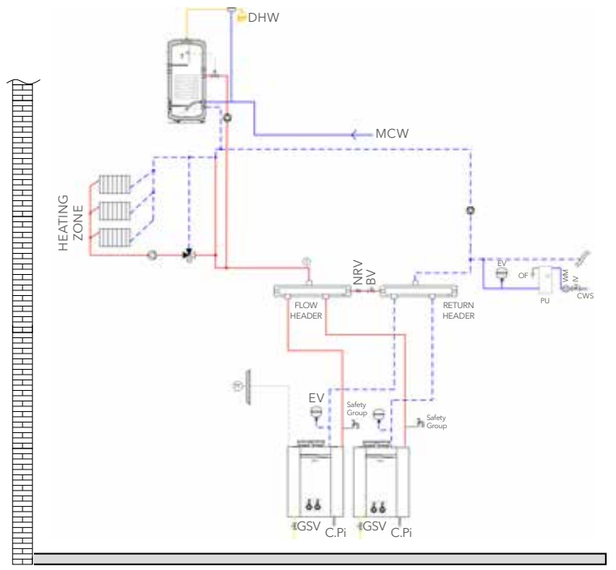
Featured products:

TRIGON® L PLUS

TRIGON® L PLUS boilers utilise a unique double heat exchanger design, which provides them with built-in redundancy – creating a cascade system within one boiler. The two heat exchangers are also capable of working independently from each other, ensuring that a system is never left without highly efficient heating.

- HEX³ technology, lowest emissions and highest efficiency
- System capability
- Intelligent control
- Compact design with small footprint
- Modernisation
- New build

System Schematic



The plant scheme:

- The new system is now set up with two TRIGON® L PLUS boilers in cascade arrangement
- A variable temperature heating circuit and a circuit for the DHW using the existing calorifier

The ELCO solution

The installation of two TRIGON® L PLUS 170kW units was part of the complete refurbishment of the heating and hot water system at the Hertfordshire care home, which has dramatically reduced NOx emissions by 86%, CO_2 emissions by more than 28%, and gas consumption by 26%.

Benefits

TRIGON® L PLUS

26% Reduction in gas consumption

86% Reduced NOx emissions

28% Reduced CO^2 emissions

From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Built-in back-up thanks to a dual heat exchanger design
- Simple to service with all key components accessible from the front of the boiler
- Integrated non-return valve allows easy connection of the flue system

Comment

"The installation of the new boilers has had a tremendous impact on the property, helping to significantly reduce operating costs and greatly improve all-round reliability"

Owner, Alban Manor

TYPE: Renovation
SECTOR: Public buildings

Dehner garden centre

Göppingen, Germany

Powerful heating solution for Dehner market in Göppingen

After being vacant for around four years, a former DIY store was converted for the Dehner garden centre group. A new installation was implemented consisting of a powerful and highly efficient heating system, including a combined heat and power unit from ELCO.

The challenge

The property, which dates back to the 1990s, was completely refurbished and brought up to the latest technical standards. Impressive and visible from afar is the new glass front. However, the many glass surfaces are also a challenge, as on the one hand the building can heat up due to sunlight on the one hand, and on the other, it cools down more quickly in winter. Temperature changes are not desirable for the plants in the garden centre.

Comment

In ELCO, Dehner found a partner who was able to master these different requirements for stabilising the indoor climate. Since the ELCO gas condensing boilers can react especially quickly they are predestined for use in garden centres. Several Dehner stores have already been equipped with powerful and efficient ELCO solutions.

Featured products:

TRIGON® XXL EVO 1100

Thanks to its special construction, the TRIGON® XXL stands for unsurpassed performance and maximum efficiency.

- Compact, modular construction
- Lowest emissions
- Easy transport and installation
- Modern system communication

VARION® C POWER XL 50S

The VARION® C-POWER combined heat and power units herald a new era in heat and power generation.

- Excellent efficiency
- Highest environmental standards
- Compact design and quiet operation

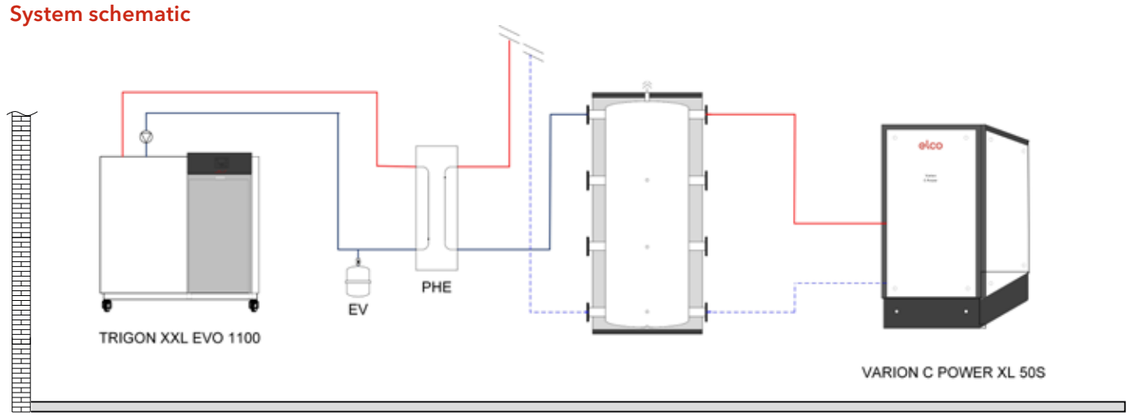
The ELCO solution

In the garden centre, the top model for boiler installations in commercial buildings was used: the fully gas condensing boiler TRIGON® XXL EVO 1100. The system was installed on the first floor. Here, the modular design of the boiler was convincing during installation. As additional component of the energy concept, a VARION® C POWER XL 50S combined heat and power unit was brought in for grid replacement operation.

Sustainable heating system and first-class service

ELCO solutions are characterised by their high durability ELCO is the only heating manufacturer in Europe to operate a operates a nationwide service network. More than 800 employees are on duty 365 days a year.

System schematic



The plant scheme:

- 1x TRIGON® XXL EVO 1100 floor standing boilers
- 1x VARION® C POWER XL 50S
- 1x Plate heat exchanger

Benefits

TRIGON® XXL EVO 1100

1043 kW
Nominal heat output at 80/60°C max.

26 mg/kWh
NOx emissions

109.7%
Annual efficiency (NNG 40/30°C)

TYPE: Renovation
SECTOR: Offices

FFH Radio station

Bad Vilbel, Germany

A new era of technology for the radio station Bad Vilbel

Since 1989, Radio/Tele FFH has been one of the most successful and largest radio broadcasters in Germany. The broadcasting built in 2001, has now been equipped with the latest broadcasting technology. The ageing heating system was also renewed.

The challenge

In the tender for a clever and economical replacement ELCO came out on top with a coherent concept and designed a system consisting of three gas condensing boilers of the type THISION® L EVO 100. It took only two weeks to install and commission the compact system, which supplies the broadcasting centre with heating and hot water.

ELCO for Europe's most modern radio station

With ELCO as a competent partner for individually conceived heating solutions and the system precisely tailored to the needs of the users consisting of three THISION® L EVO 100 wall-mounted gas condensing boilers, those responsible in Bad Vilbel have made a good choice. They were developed by ELCO to meet the highest demands and offer the greatest possible economy, maximum flexibility and better emission values.

Featured products:

THISION® L EVO

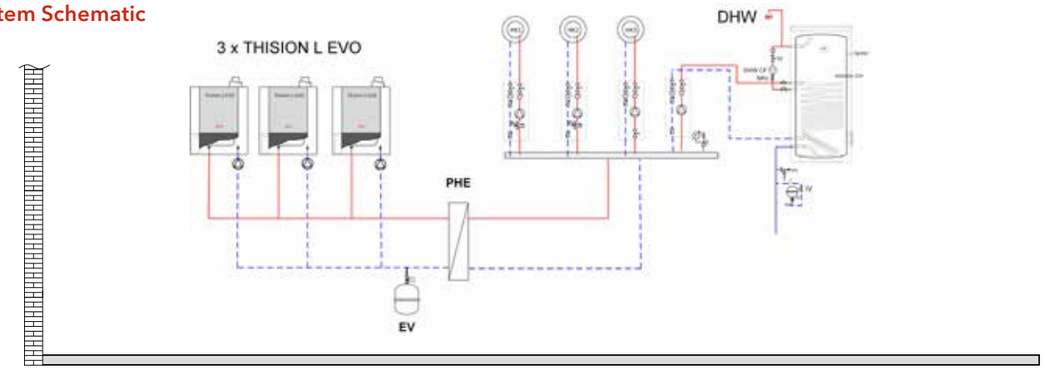
The THISION® L EVO sets the standard for gas wall-mounted condensing boilers for commercial, industrial and municipal residential construction. It offers very good performance values, permanently high efficiency and maximum flexibility of use..

- Flexible cascade applications
- Low heat losses and noise emissions
- Resistant heat exchanger with double wall geometry
- Highest efficiency

The ELCO solution

In the garden centre, the top model for boiler installations in commercial buildings was used: the fully gas condensing boiler TRIGON® XXL EVO 1100. The system was installed on the first floor. Here, the modular design of the boiler was convincing during installation. As additional component of the energy concept, a VARION® C POWER XL 50S combined heat and power unit was brought in for grid replacement operation.

System Schematic



The plant scheme:

- 3 x THISION® L EVO boilers
- Heating and domestic hot water supply
- 1x Plate heat exchanger

Benefits

THISION® L EVO 100

92,9 kW
Nominal heat output at 80/60°C max.

36mg/kWh
NOx emissions

109.4%
Annual efficiency (NNG 40/30°C)

Space-saving boiler system for environmentally friendly operation

- The THISION® L EVO is compact, space-saving and therefore particularly easy to install.
- The enclosed, fully insulated housing minimizes radiation losses and at the same time reduces the noise pollution.
- Low emission values: An innovative metal fleece flat burner with a cold flame reduces the NOx emissions to a minimum of 36 mg/kWh.
- The ELCO solution already complies with the eco-design guidelines of the future.

TYPE: New build
SECTOR: Sports facilities

Sports school Wedau

Duisburg, Germany

Sporty heating power from the 14th floor

At the Wedau Sports School, the scouts of the German Football (DFB) are regularly on the lookout for the professionals of tomorrow. To ensure that the competitive conditions are also at the top level, the buildings were extensively renovated – including the heating system with six new gas condensing boilers from ELCO's TRIGON® XL range.

The challenge

The heart of the largest sports school in Germany is a 15-storey high hexagonal tower. It houses a hotel with conference and seminar rooms and a panorama café. The old heating system was located on the 14th floor. The new heating system was also to be installed in the same place and with these specifications. This means: very high performance requirements with special specifications for the compact dimensions of the boilers, so that they could be transported to the lofty heights by lift.

High performance requirements, limited space

The heating system ensures pleasant room temperatures and hot water. It was installed during operation. One old boiler was taken out of the system and a new one was installed. There was no possibility to treat or exchange the heating water, which was of rather lower quality, for the new boilers.

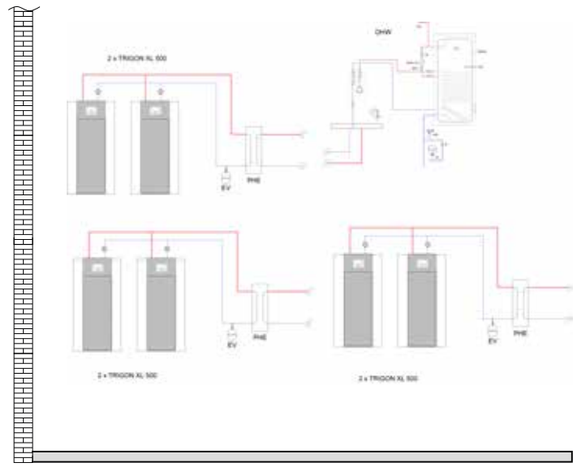
Featured products:

TRIGON® XL

Thanks to extremely flexible configurations, sophisticated design and a wealth of available models, the TRIGON® XL gas condensing boiler is perfect for a wide range of commercial applications.

- Highest efficiency with advanced burner design
- Extremely low NOx and CO emissions
- Maximum flexibility, compact dimensions,
- Lightweight construction and easy installation

System Schematic



The plant scheme:

- 6 x TRIGON® XL 500 units
- Domestic hot water supply
- Installation on 14th floor

The ELCO solution

There was only one boiler that could meet the requirements - the gas condensing boiler TRIGON® XL 500 from ELCO, with its robust stainless steel heat exchangers. In contrast to aluminium, this first-class material can also tolerate heating water of lower quality and ensures consistent efficiency values over the entire life cycle. Another unbeatable advantage is the compact external dimensions and low weight of the gas condensing boiler: It fits easily into the lift and through any door and could thus be easily transported to the 14th floor.

Benefits

TRIGON® XL 500

476,9 kW
Nominal heat output at 80/60°C max.

29 mg/kWh
NOx emissions

110,4%
Annual efficiency (NNG 40/30°C)

Space-saving heating system for environmentally friendly operation

- The transport rollers of the TRIGON® XL 500 enabled easy manoeuvring at the assembly site. For even more difficult conditions, the boiler can be dismantled into modules.
- For the sports school, 6 TRIGON® XL 500 units with a total output of 3000 kW were installed. They are connected in pairs via controllers in cascade.
- The water-cooled, fully modulating premix burner system with cold flame is extremely low in emissions and meets the requirements of NOx class 6.

TYPE: Renovation
SECTOR: Special Project

Absolute Spa

Piacenza

The solution provided by ELCO provides high efficiency and maximum comfort

A world icon of creative independence, Italian spirit and pleasure in navigation, Absolute Yacht, an Italian manufacturer of luxury yachts, has chosen ELCO to improve comfort in its Piacenza headquarters where every concept, value and principle for Absolute are highest and absolute expression.

The challenge

The careful design phase, the extreme simplicity of installation of ELCO products as well as the careful development of the system have made us partners in this project that find in the attention of details the “life motive” of the challenge.

Comment

Giovanni Bonaduce, Area Sales Manager of ELCO Heating Solutions Italia, said: “Thanks to the strength of ELCO’s commercial product range and the strong synergy between the commercial network and service, we have succeeded in carrying out a revamping of the thermal power plant of over 4MW for the plant of the important company Absolute Yacht.”

Featured products:

R3605L

Unparalleled efficiency and power:

- Stainless steel for high performance
- High modulation range
- Reduced amount of water to optimize the efficiency

The ELCO solution

While Absolute Yacht aims for the best results on manufacturing luxury yachts, ELCO aims to provide commercial heating solutions of the highest standard. For Absolute Yacht ELCO provided a tailor-made solution, involving the installation of 4 R3605L floor standing condensing thermal units in cascade with a power of 1000 kW each. This results in a highly efficient installation of 4 MW for the Yacht manufacturer.

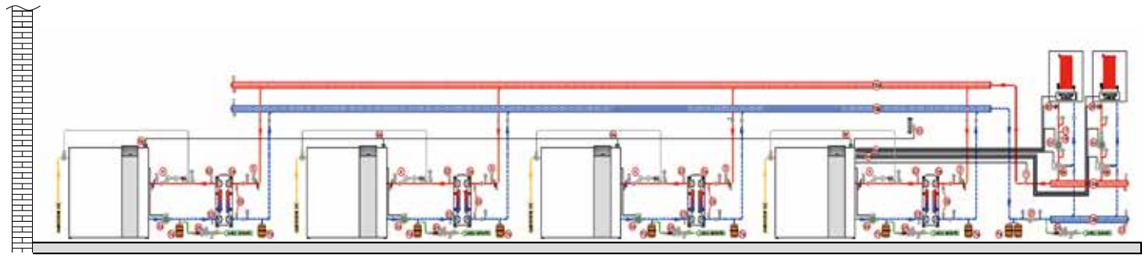
Benefits

R3605L

109,8%
Annual efficiency (NNG 40/30°C)

19,5 mg/kWh
NOx emissions

System Schematic



The plant scheme:

- A system is set up with 4 R3605L floor standing condensing thermal units in cascade
- Plate Heat Exchanger and 1 Zone for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater.

From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Calculable costs through maintenance contract
- Flexible adjustment of power through wide modulation range
- Hygienic warm water processing

TYPE: New Building
SECTOR: Public Buildings

Lega del Filo d'Oro

Ancona

The energy efficient solution that utilises renewable energy

"Lega del Filo d'Oro" is a non-profit association that since 1964 has been involved in the assistance, education, rehabilitation and reintegration into the family and society of deafblind and psychosensory children, young people and adults. For more than 50 years it has hosted users from all Italian regions, providing personalized health and educational-rehabilitation services for all ages.

The challenge

The design and construction are made with the highest standards of efficiency, quality and comfort in order to guarantee the best performance for the heating of the rooms, the physiotherapy pool and the hot water service for the guest rooms.

Comment

Massimo Lancioni, Area Sales Manager of ELCO Heating Solutions Italy, said: "Lega del Filo D'Oro is an excellence in supporting deaf and blind people. The new national center of Osimo wants to be a fundamental point of the association's activity. Being able to help by providing heat pumps for the air conditioning rooms and structures that help those less fortunate to live better every day is an honor for ELCO."

Featured products:

AQUATOP® T

Comfort and efficiency for all applications:

- Reduction of the environmental impact
- Low operating costs
- Comfort and efficiency

The ELCO solution

For this new center in Osimo (AN) we have built 4 thermo-refrigerating plants with geothermal heat pumps for a total power of 350 kW.

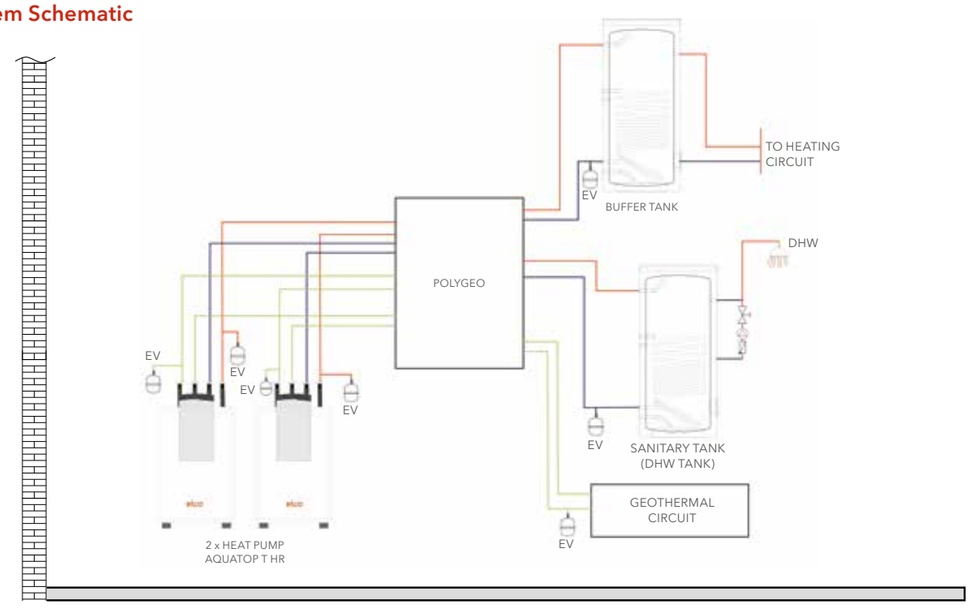
Benefits

ELCO AQUATOP® T HR

197%
Annual efficiency (NNG 40/30°C)

61 dB(A)
Sound power level

System Schematic



The plant scheme:

- A system is set up with 2 AQUATOP® T heat pumps in Cascade Connection
- Plate Heat Exchanger and 1 Zone for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater

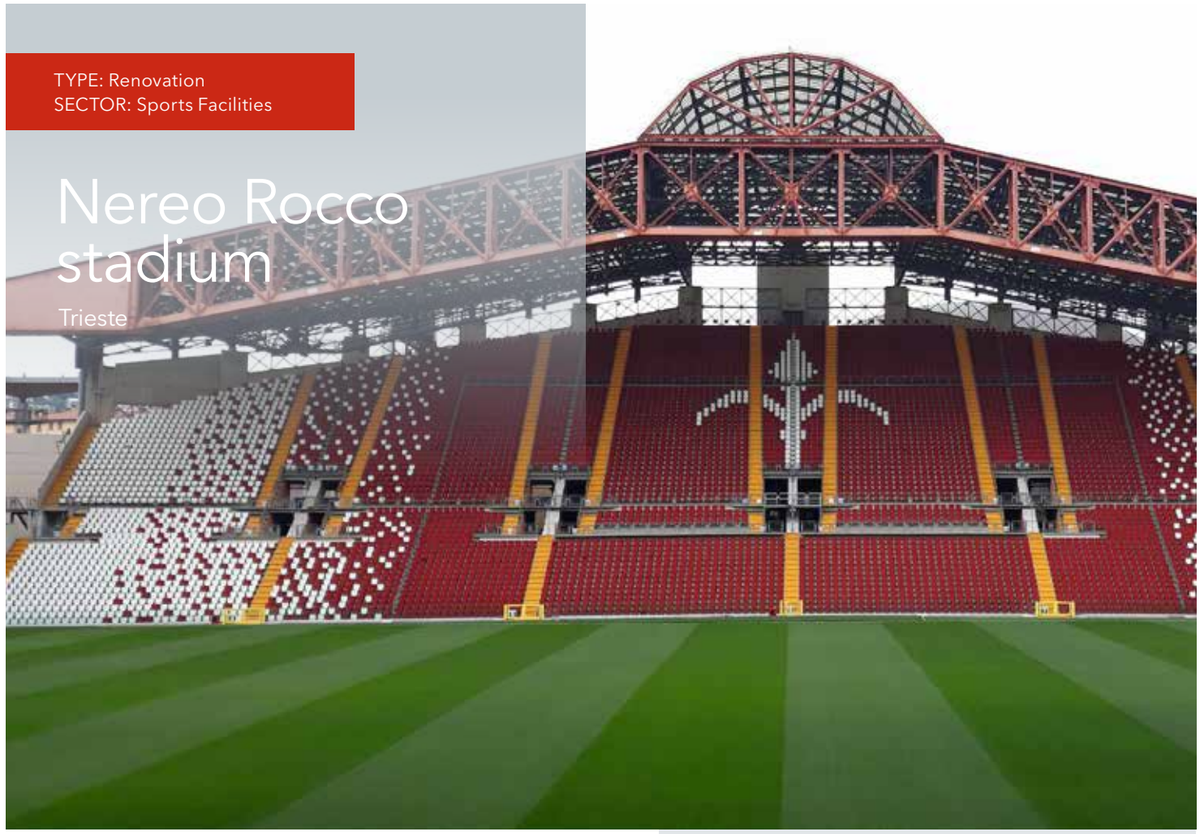
From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Calculable costs through maintenance contract
- Flexible adjustment of power through wide modulation range
- Hygienic warm water processing

TYPE: Renovation
SECTOR: Sports Facilities

Nereo Rocco stadium

Trieste



ELCO provides innovative solution for ultimate comfort

The Nereo Rocco stadium has been the main football facility in Trieste since 1992, dedicated to the famous coach. It hosts matches and concerts by international artists.

The challenge

We have created a highly efficient system for heating and DHW production for the internal services of the Stadium and heating the playing field in the coldest period of the year, obtaining energy efficiency according to current regulations.

Comment

Paolo Pagotto, Kam and Area Sales Manager of ELCO Heating Solutions Italia, said: "Thanks to the strength of ELCO's commercial product range and the strong synergy between the network commercial and Solution Center of ELCO, we have achieved a revamping of the thermal power plant of the Historic Nereo Rocco Stadium in Trieste."

Featured products:

THISION® L EVO

Evolution in commercial technology:

- Stunning flexibility in every installation
- Always excellent performance
- Maximum accessibility and control

The ELCO solution

The solution adopted to meet the comfort needs of the structure is a system in cascade of 3 THISION® L EVO 100 condensing boilers for a total heat output of 286 kW.

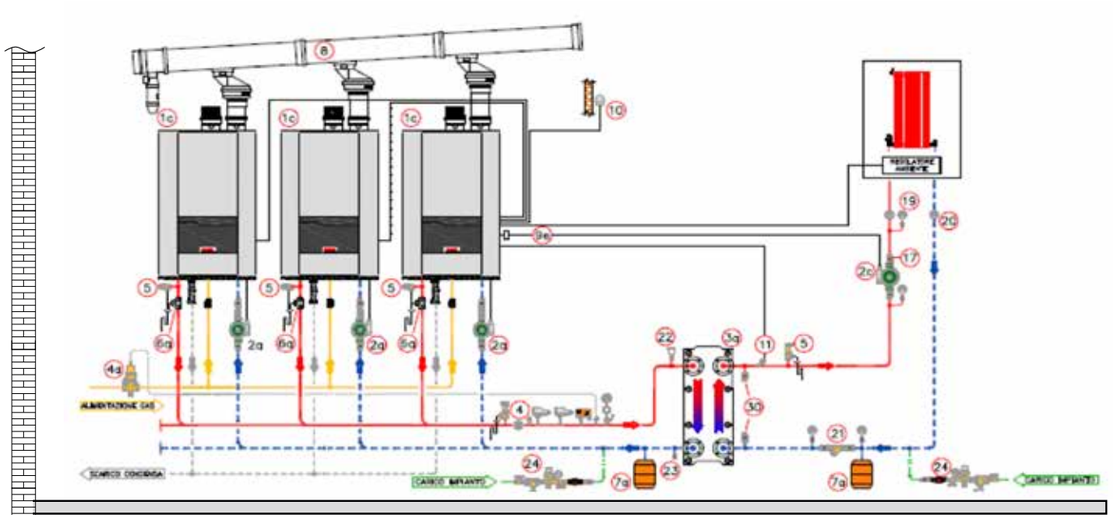
Benefits

THISION® L EVO

108.7% Annual efficiency (NNG 40/30°C)

26mg/kWh NOx emissions

System Schematic



The plant scheme:

- A system is set up with 3 THISION® L EVO boilers in Cascade Connection
- Plate Heat Exchanger and 1 Zone for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater.

From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Calculable costs through maintenance contract
- Flexible adjustment of power through wide modulation range
- Hygienic warm water processing

TYPE: Renovation
SECTOR: Hotels

Pizzalto hotel

Roccaraso

ELCO's high performance products deliver comfort and well-being to hotel guests

The charm of the mountains in winter is incredible: the snow slopes, the welcoming lobby of the hotel, the comfort of a room to rest and relax. The PIZZALTO Hotel in Roccaraso, in the province of L'Aquila, has chosen ELCO to convey to its guests all the warmth of a mountain-style holiday..

The challenge

We were able to evaluate together an energy efficient and environmentally friendly solution for this hotel that overlooks the ski slopes where thousand of users can enjoy ELCO comfort every year for a long time.

Comment

Massimo Lancioni, Area Sales Manager of ELCO Heating Solutions Italia, said: "When our partner contacted us for the redevelopment from diesel to gas in a context like this, it was a wonderful opportunity for us to field what we are able to do."

Featured products:

TRIGON® XL

Maximum compactness and powerful performance:

- Flexible for any installation
- Designed for the most difficult installations
- High efficiency for lifetime of boiler

The ELCO solution

The solution, tailor-made for Absolute, involved the installation of 4 R3605L floor standing condensing thermal units in cascade with a power of 1000 kW each for a total of 4 MW.

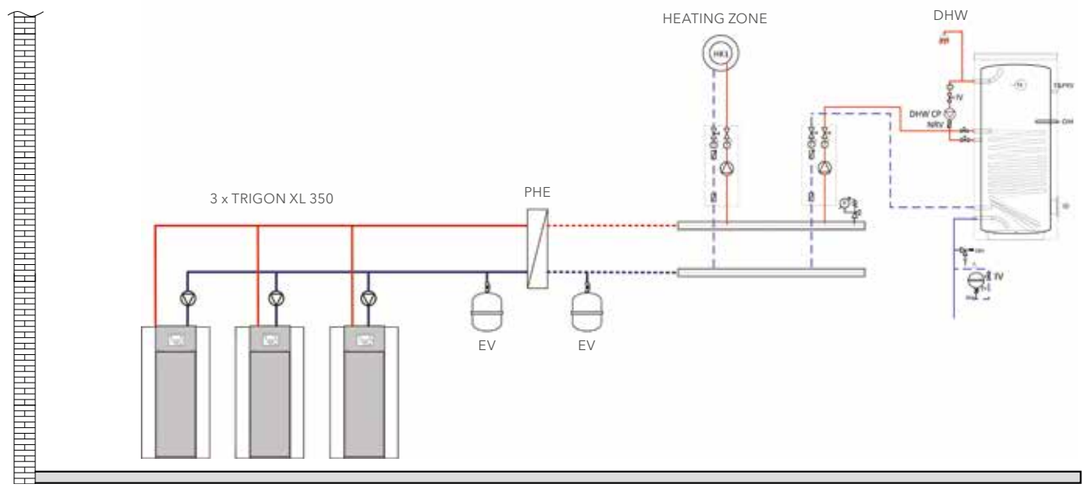
Benefits

TRIGON® XL

110,4%
Annual efficiency (NNG 40/30°C)

34mg /kWh
NOx emissions

System Schematic



The plant scheme:

- A system is set up with 3 TRIGON® XL boilers in Cascade Connection
- Plate Heat Exchanger and 1 Zone for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater.

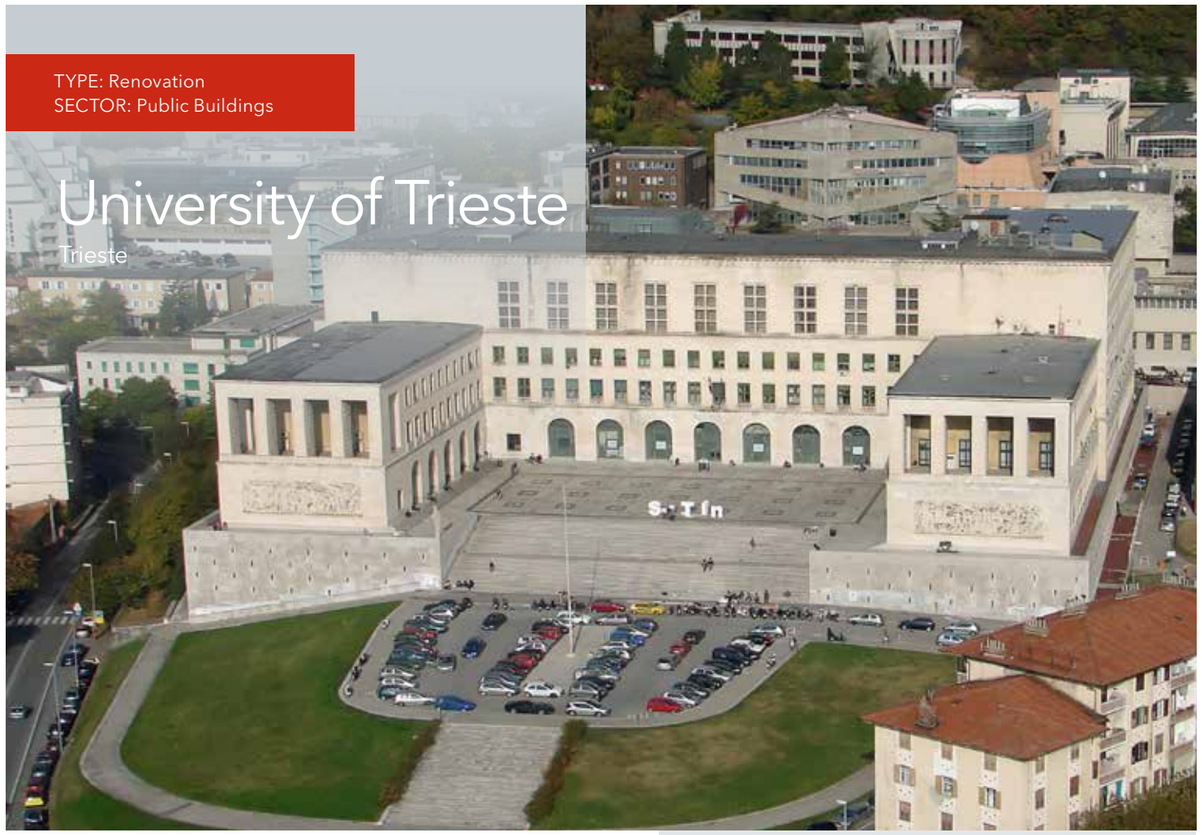
From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Calculable costs through maintenance contract
- Flexible adjustment of power through wide modulation range
- Hygienic warm water processing

TYPE: Renovation
SECTOR: Public Buildings

University of Trieste

Trieste



Historic building renovation includes new highly efficient heating solution

The University of Trieste founded in 1924 has a student population of more than 16,000. The training offer is divided into more than sixty degree courses and in about forty, between courses and doctoral schools.

The challenge

The customer's need was to create a solution for heating and DHW production for the internal services of the structure, obtaining energy efficiency according to the regulations with a considerable saving in consumption (-25%).

Comment

Paolo Pagotto, Kam and Area Sales Manager of ELCO Heating Solutions Italia, he said: "Thanks to the strength of ELCO's commercial product range and the strong synergy between the commercial network and the Solution Center, it was possible a revamping of the thermal power plant of the University of Trieste, with a significant reduction of the consumption for this great structure."

Featured products:

THISION® L EVO

Evolution in commercial technology:

- Stunning flexibility in every installation
- Always excellent performance
- Maximum accessibility and control

The ELCO solution

The University of Trieste has chosen ELCO for the management of the comfort of its rooms. The solution adopted is a system consisting of 6 condensing boilers in cascade THISION L EVO 140 model for a total heat power of 800kW.

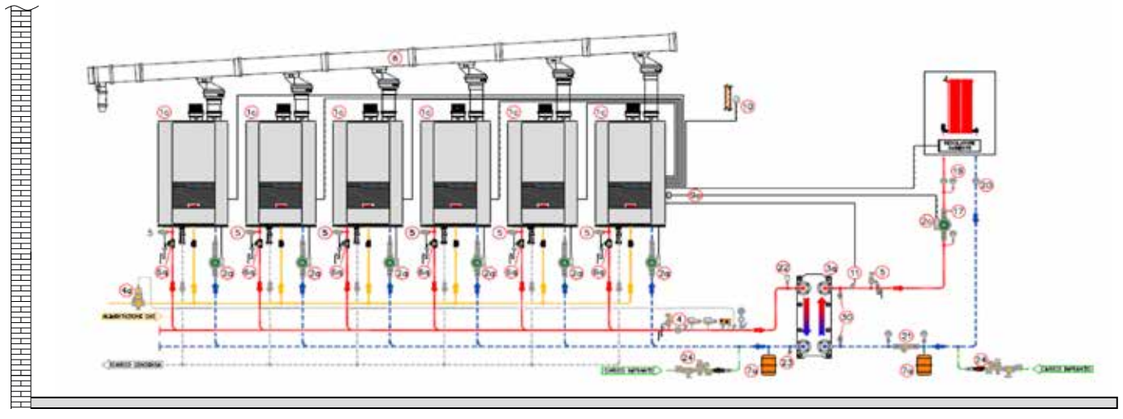
Benefits

THISION® L EVO

108.7% Annual efficiency (NNG 40/30°C)

26mg/kWh NOx emissions

System Schematic



The plant scheme:

- A system is set up with 6 THISION® L EVO boilers in Cascade Connection
- Plate Heat Exchanger and 1 Zone for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater

From ageing and inefficient standard boilers to modern gas condensing units from ELCO

- Calculable costs through maintenance contract
- Flexible adjustment of power through wide modulation range
- Hygienic warm water processing

TYPE: Renovation
SECTOR: Offices

The People's Bank of China

(Jiangsu, China)

ELCO provides the optimal solution for EMC projects

Before the renovation, 3 pcs of 1820kW steam boilers provided heating for the office building of 27,000 square meters and the hotel of 10,000 square meters, and the hot water for 90 rooms, but the energy loss was large and the NOX emission exceeded the government standard.

The challenge

1. The customer requires our partners to promise to guarantee the system efficiency and energy saving rate of the system after the renovation;

2. After the renovation, the original pipeline is still used on the secondary side of the system, and there is a risk of heat loss;

Comment

Vincent Xia, Area Sales Manager for ELCO Heating Solutions, was closely involved with the project from its inception. The final implementation method of this project is EMC. Our solution center team made a detailed surveys on the site, conducted in-depth communication with customers many times, and learned a lot of key information about this system, so we dared to tell our partners that the energy-saving potential of this project is very large. Our professionalism and meticulousness have been recognized by customers. The actual energy-saving performance after the implementation of the system has made customers very satisfied. This project will become a reference case for energy-saving transformation in the banking industry.

Featured products:

TRIGON XL 570

The TRIGON® XL represents a significant step forward in heating technology. With extremely flexible configurations, clever design and a range of models available, the boiler is perfect for a variety of commercial applications. Plus, extensive cascade arrangements of up to 8 boilers with a combined output of 4,560kW are possible.

- High Efficiency & Low emissions
- Cascading control
- Accurate heat output based on heat demand
- Quick heating response create a comfortable working environment

The ELCO solution

1. Reduce the total installed power combined with previous running data
2. The cascade control of 5 boilers makes the system operation more secure
3. Combined with building monitoring system, energy-saving is visible

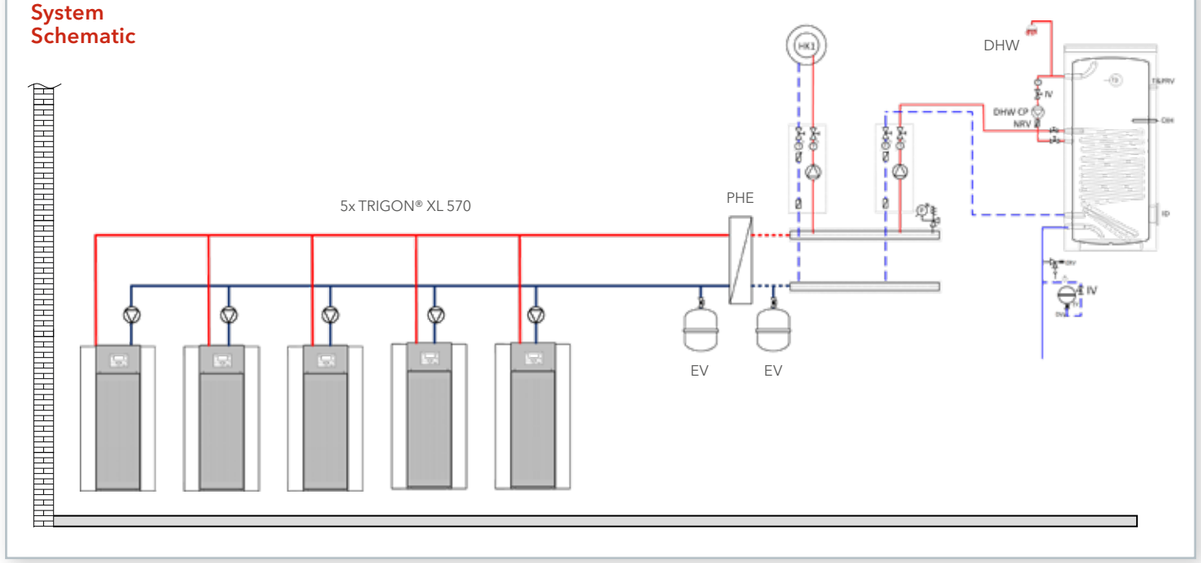
Benefits

TRIGON® XL

110.3%
Annual efficiency (NNG 40/30°C)

29mg/kWh
NOx emissions

System Schematic



The plant scheme:

- A system is set up with 5 TRIGON® XL boilers in Cascade Connection
- Plate Heat Exchanger and 2 Zones for heating for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater

After renovation

- 103% system efficiency
- More comfortable working environment
- Low maintainence cost than before

TYPE: New Build
SECTOR: Public Buildings

Daweimingdu

(Shandong, China)

ELCO provides high efficient heating for large residential communities

Daweimingdu is a large residential community with an area of nearly 500,000 m². After visiting several ELCO projects, the owner abandoned the original municipal central heating plan. As the occupancy rate of the community rises, it has adopted seven ELCO TRIGON® XXL EVO 1700 and two R3410 gas fired condensing boilers, providing heating to the east and west districts.

The challenge

1. The community is a new real estate, the initial occupancy rate is relatively low, and the overall heating heat loss is too large.
2. The available installation space is limited, but the heating area is large.

Comment

Zhang Hua, Sales Manager for ELCO China, said: "This project is a classic project in Jinan. Selecting ELCO condensing boilers to provide heating for this community was a very creative and far-sighted decision at the time, because the heating in the surrounding communities was municipal central heating. However, after learning more about our solutions, products and the advantages of distributed heating, the customer firmly chose ELCO. Facts have proved that his choice was very wise. The project has become a frequent visit point for low-nitrogen transformation by the municipal government."

Featured products:

TRIGON® XXL EVO

The TRIGON® XXL offers unrivalled power and performance, delivering outputs up to 2 MW, thanks to a one-of-a-kind boiler design. By combining a unique heat exchanger geometry and a water-cooled cold flame burner, the TRIGON® XXL delivers class-leading performance for low NOx and CO.

- High efficiency & low emissions
- Modulating and cascading running provides a suitable output power
- Compact size but powerful output power

The ELCO solution

1. Typical application case of low loss head;
2. The primary and secondary side systems are relatively independent;
3. Cascade and remote monitoring

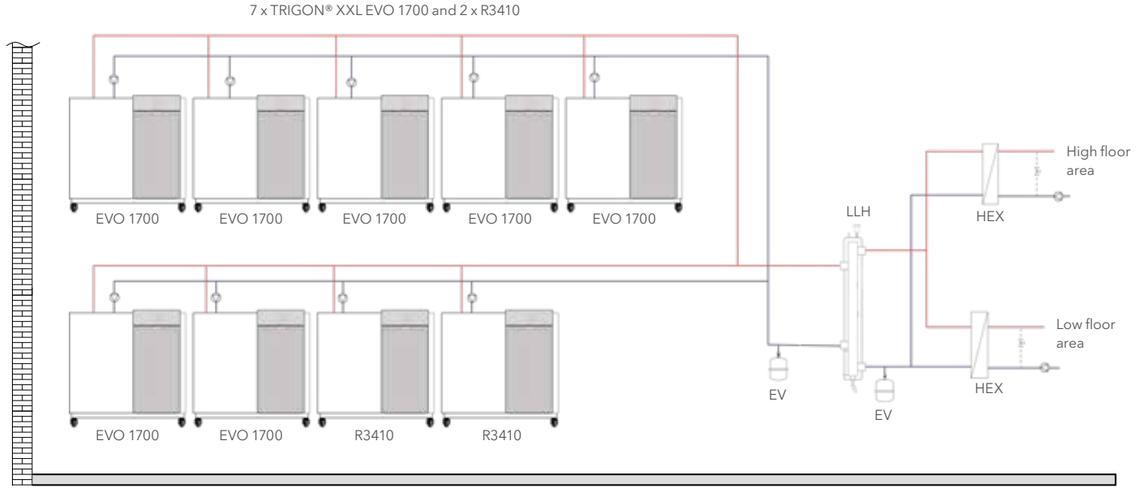
Benefits

TRIGON® XXL

109.1% Annual efficiency (NNG 40/30°C)

22mg/kWh NOx emissions

System Schematic



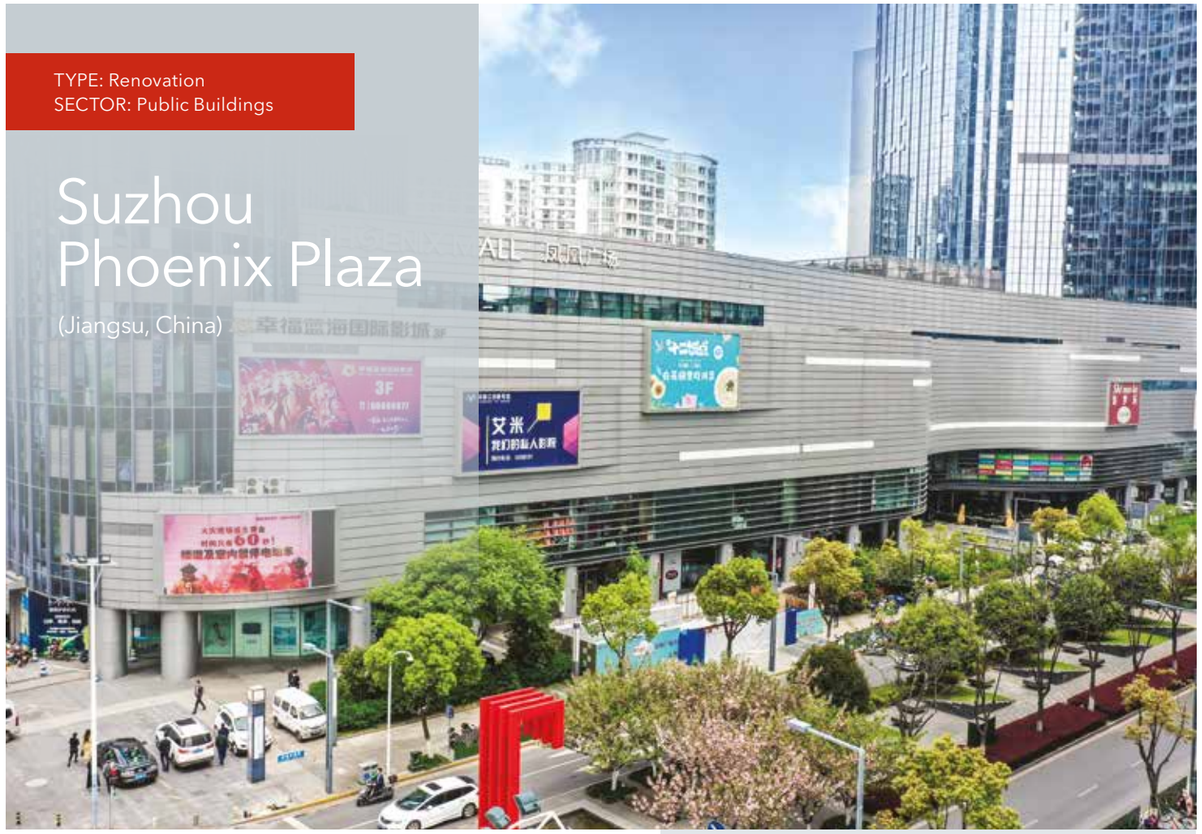
The plant scheme:

- More than 30% energy saving vs. central heating
- Modulating output power satisfied the variable heating demands
- Very low maintainence

TYPE: Renovation
SECTOR: Public Buildings

Suzhou Phoenix Plaza

(Jiangsu, China)



ELCO solves the problem of a small renovation space

The 50,000 m² commercial complex originally used two 2.8MW traditional hot water boilers to provide central heating. Due to the high heating costs, three ELCO condensing gas boilers R3605 were selected after evaluation, which achieved good energy-saving effects.

The challenge

1. The original boiler is a state-owned asset and cannot be removed directly
2. The remaining installation space is limited, the total power of the boiler that can be installed is only 60% of the original design power
3. The boiler transportation channel is extremely narrow

Comment

The final implementation method of this project is EMC. Our partners have been under tremendous pressure and risk before the energy-saving effect has not been verified, because the payment terms of the project are directly related to the energy-saving after the project. The more profitable partners are, and vice versa. But the final result is still very good. Compared with the original system, our final energy saving exceeds 40%.

Featured products:

R3605

The down-firing water cooled premix burner arrangement of the boilers not only ensures maximum combustion efficiency but extremely low NOx emissions.

With a power range from 660kW to 1.9MW, and the possibility to use up to eight boilers in a cascade arrangement, R3600 boilers are ideally suited for larger commercial heating applications.

- High efficiency & low emissions
- Modular design allows easy disassembly and transportation
- Compact size with powerful output

The ELCO solution

1. Combined ELCO boiler into the original system
2. Keep the two original traditional boilers on the system but shut them off with closed valves
3. Optimise the running strategy of the system
4. Remote monitoring was added to the system

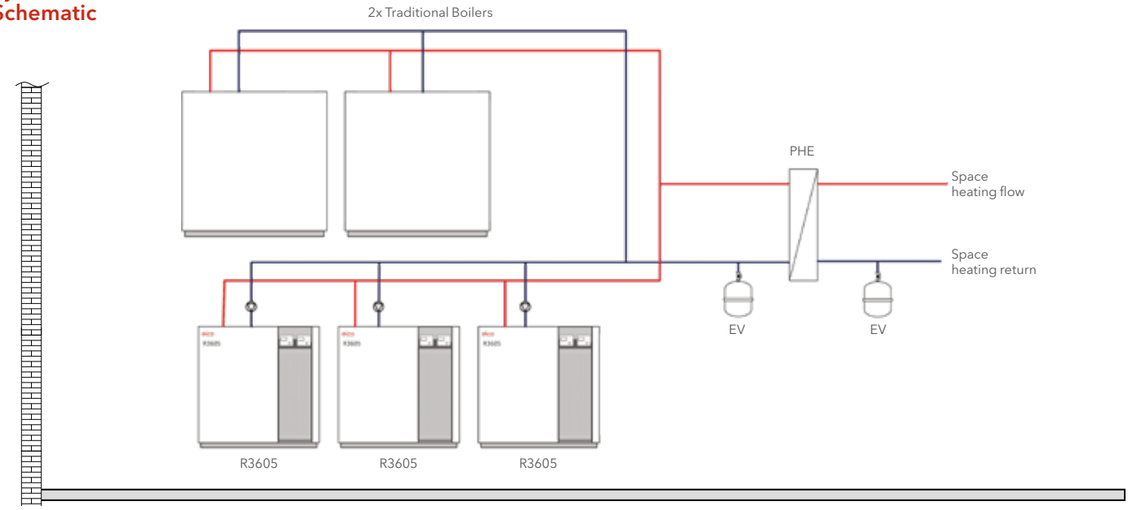
Benefits

R3605

109.8%
Annual efficiency (NNG 40/30°C)

20mg/kWh
NOx emissions

System Schematic

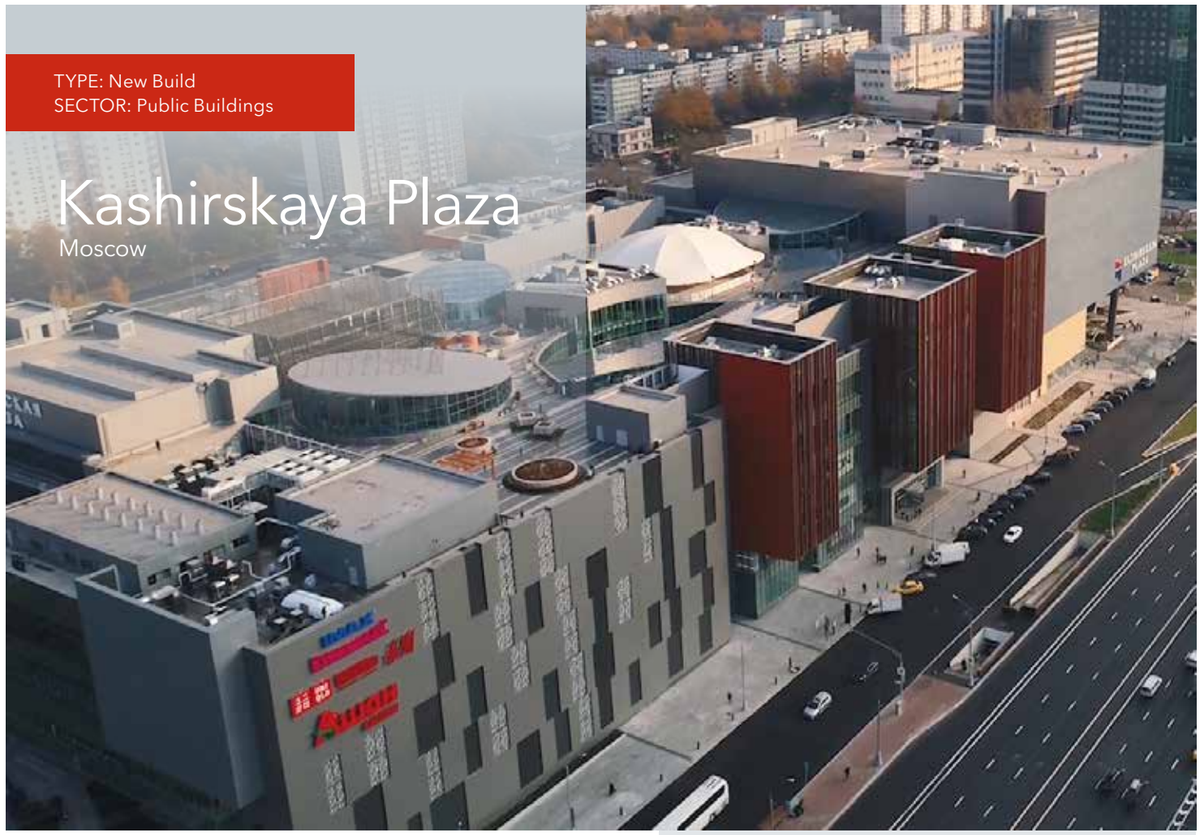


The plant scheme:

- A system is set up with 5 TRIGON® XL boilers in Cascade Connection
- Plate Heat Exchanger and 2 Zones for heating
- 1 Zone for Domestic Hot Water supply with coil type storage water heater

After renovation

- 103% system efficiency
- More comfortable working environment
- Low maintainence cost than before



TYPE: New Build
SECTOR: Public Buildings

Kashirskaya Plaza

Moscow

ELCO boilers in Europe's most powerful rooftop boiler room

Kashirskaya Plaza is a modern shopping and entertainment center with a total area of 196,000 m². There are numerous shops, restaurants, entertainment areas and a fitness center on the five floors of this shopping center. Furthermore, on the roof of Kashirskaya Plaza, there is a skating rink and a swimming pool.

The challenge

Initially, it was planned to connect Kashirskaya Plaza to the municipal district heating network. However, after the heat supply company changed the connection cost, the search for alternative heat supply options began. However, there was not enough space on earth around building for a boiler room. At the same time, the installation of the boiler room on the roof was challenging, since the roof of the boiler room had not been originally designed for this.

Comment

Obviously, supplying heat to such a project is not an easy task. However, a solution was found and 15 ELCO R3410 boilers with a total capacity of 28 MW were installed in a boiler room on a roof of Kashirskaya Plaza. This project is a perfect example of how the use of modern ELCO boiler equipment opens up new possibilities and allows for significant savings in initial costs. Due to the low weight of the boilers, they were installed without additional roof reinforcement. Since the roof of the shopping center is operated, the compact dimensions of the boilers were also an important advantage. Furthermore, the extremely low emissions of ELCO boilers were very important, since the shopping center is located near to residential buildings.

Featured products:

ELCO R3410

These boilers ideally combine high power and low weight. In addition, thanks to a unique HEX³ technology, these ELCO boilers have extremely low emissions. Another important advantage of R3400 series is modular construction, which allows quick disassembly of the powerful boiler into compact blocks. This feature is very beneficial for projects with difficult access such as rooftop boiler rooms.

- Lightweight
- Compact dimensions
- Low noise and vibration
- Low NOx and CO emissions
- Modular construction

The ELCO solution

Thanks to the low-water content of the R3410 boilers, it was possible to install a solution delivering 28 MW of output on a rooftop. The 15 boilers can be conveniently controlled by a cascade controller and while the boilers and pumps sit on the rooftop, the rest of the installation is located in the basement.

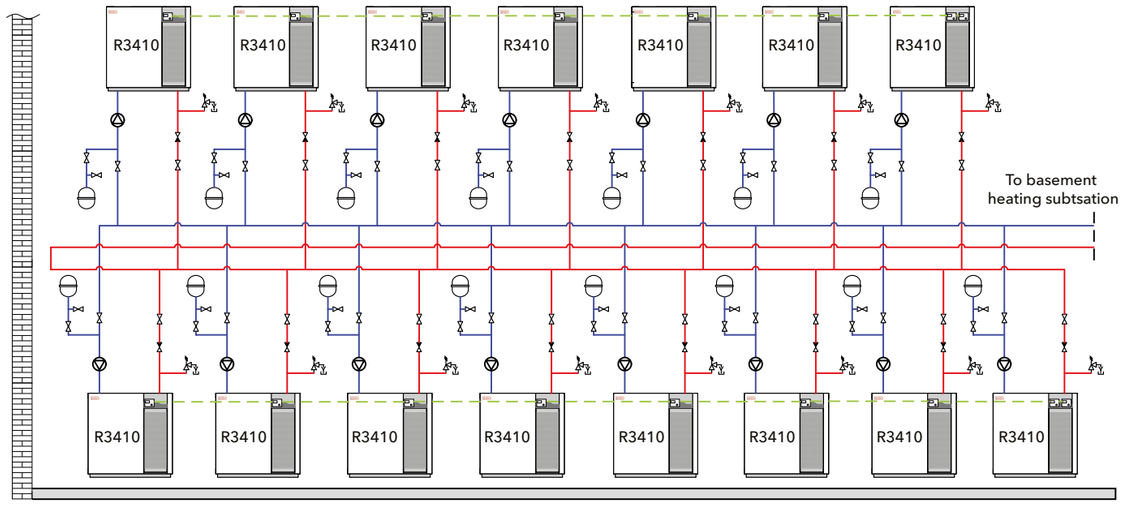
Benefits

ELCO R3410

<1kg/kW
With water

23mg/kWh
Annual emissions (EN15502)

System Schematic

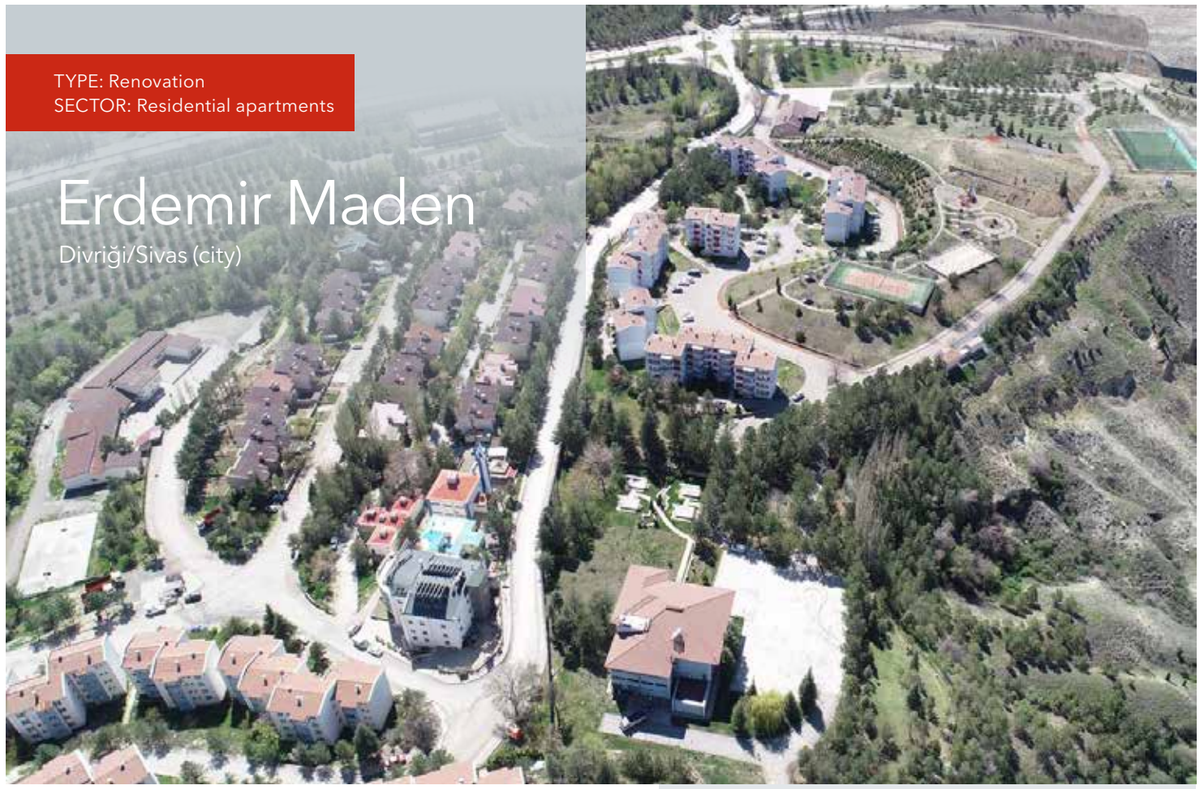


The plant scheme:

- 15 R3410 boilers controlled by a cascade controller to maintain constant supply temperature after low loss header
- Most of the equipment located in the basement to lower weight load on a roof of the building

With ELCO boilers it is possible to solve the most difficult challenges

- Minimum boiler room dimensions
- No need for roof reinforcement for a rooftop boiler room
- No need for any measures to reduce noise and vibration
- Low emissions



TYPE: Renovation
SECTOR: Residential apartments

Erdemir Maden

Divriği/Sivas (city)

ELCO supplies highly efficient condensing boilers to new luxury resort

The boiler room of Erdemir Maden Accommodations consists of 10 apartment blocks, with 80 flats and 3+1 rooms each. Located in Divriği/Sivas (city), the boiler plant has been renewed using ELCO TRIGON® XL floor standing condensing boilers and brought up to modern and environmental friendly standards.

The challenge

The heating and hot water supply for the Erdemir Maden Accommodations were provided by solid fuel (coal) fired boilers, which were very inefficient, challenging to operate and dirty (dust, carbon black, soot etc.). In order to reduce the high operating costs and improve working conditions, converting the installation to a natural gas boiler system was the obvious choice. Furthermore, the Technical Manager responsible for the heating systems had little means to monitor the system and this needed to improve with the new installation.

Comment

The conversion of Erdemir Maden Accommodations' boiler room would be a dramatic improvement, not only for the people living there, but also the operating/managing crew. The first process involved calculating the heating and hot water requirements of the accommodations, which defined the system solution with ELCO TRIGON® XL boilers – obtaining maximum efficiency by utilising the advantages of the latest technology. The new, immaculate boiler room, is computer controlled by only one person and delivers maximum efficiency in a clean environment. The system also allows full control of the installation, including the ability to intervene should any errors occur, make adjustments when required and perform detailed performance and consumption analysis, which is necessary to further lower running costs.

Featured products:

TRIGON® XL

The TRIGON® XL represents a significant step forward in heating technology. With extremely flexible configurations, clever design and a range of models available, the boiler is perfect for a variety of commercial applications. Plus, extensive cascade arrangements of up to 8 boilers with a combined output of 4,560kW are possible.

- HEX³ technology, lowest emissions and highest efficiency
- System capability
- Intelligent control
- Compact design with small footprint
- Modernisation
- New build

Before

After

The ELCO solution

By installing a system with 4 TRIGON® XL 570 kW and 1 TRIGON® XL 500 kW floor standing boilers in cascade, all heating and domestic hot water requirements of the 80 flats in 10 blocks are satisfied. Furthermore, by utilising the web server product, all monitoring and operation of the boilers and system can be performed remotely on computer by one person, instead of using 5 operating personnel who used to manage and monitor the system.

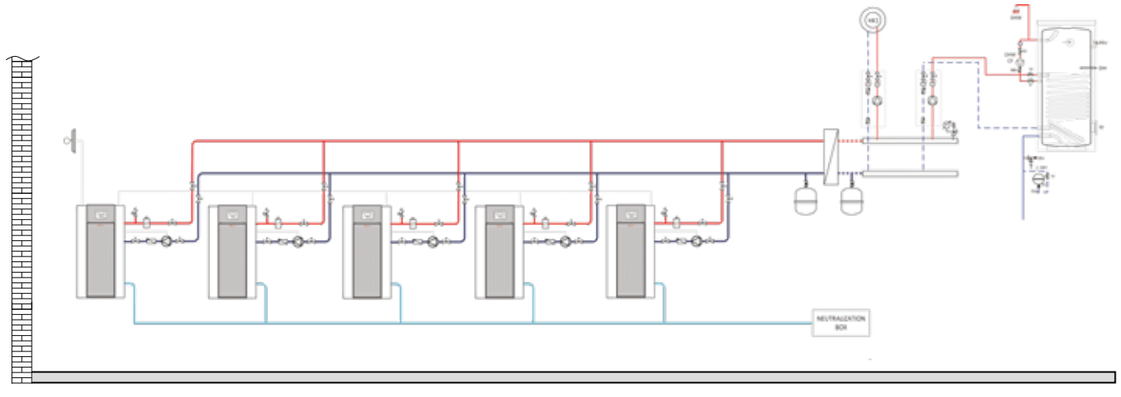
Benefits

TRIGON® XL

110.3% Annual efficiency (NNG 40/30°C)

29mg/kWh NOx emissions

System Schematic



The plant scheme:

- A system is set up with 5 TRIGON® XL boilers in cascade;
- plate heat exchanger and 1 zone for heating
- 1 zone for domestic hot water supply with coil type storage water heater