

elco

PRODUCT

RANGE



OUR COMPANY

Since its foundation in 1928, ELCO has always been a specialist in burners conception and manufacturing. By linking a strong innovative ability to a continued developing drive, ELCO has designed high performing and reliable burners as well as corresponding services throughout the years, and is today one of the leaders in the field of combustion technology.



OUR MISSION

ELCO always looks for the best technologies and continues to develop new ones to improve the efficiency of its solutions.

Our R&D Laboratories are committed to develop innovative technological solutions allowing to:

- optimise the running of the installations lowering costs;
- offer service friendly products easy to maintain;
- preserve the environment lowering acoustic and pollutant emissions.



OUR PRODUCT RANGE

Our proposal provides power, accuracy and reliability in a complete range of burners from 11 kW to 80 MW:



VECTRON

11 - 2300 kW

Page 4

PROTRON

17 - 550 kW

Page 5

NEXTRON

250 - 11200 kW

Page 6

EK EVO

250 - 13500 kW

Page 7

N

1300 - 22000 kW

Page 8

CUTTING-EDGE BURNERS FOR HEATING AND INDUSTRIAL APPLICATIONS

OUR INNOVATIVE SOUL

A right mix of experience and spirit of innovation gives ELCO the push to constantly refine its products and develop new ones to respond to market demands, in particular those related to the reduction of polluting emissions.

The growing attention to issues related to the environment has led to the development of advanced combustion technologies that use alternative fuels, as happens for example with hydrogen burners, a product of the future that ELCO is already able to offer today.



OUR WORLDWIDE NETWORK

Capitalising on more than 90 years of work experience, ELCO has been capable to build up loyal partnerships and today can count on reliable Partners all over the World.

Combining an instinctively global perspective with a genuinely multicultural approach ELCO today offers you skilled and experienced experts available in more than 70 Countries.

In Europe

3 production plants

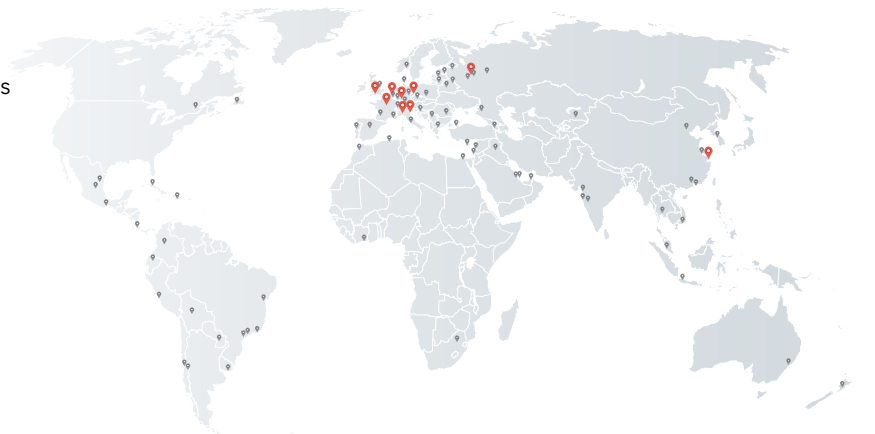
6 commercial branches

Strong commercial presence through a network of reliable dealers and partners

Worldwide

2 Sales Offices in Russia and China

Distribution in over 70 Countries



HO/GHO-TRON

68 - 17000 kW

Page 9



RPD

500 - 80000 kW

Page 10



EK-DUO

600 - 16000 kW

Page 11



D-TRON

230 - 34000 kW

Page 11

VECTRON 1...6

MONOBLOCK BURNERS

FROM 11 TO 2300 kW

GAS, LIGHT OIL AND DUAL FUEL



ErP



AN OPTIMAL COMBINATION OF EXPERIENCE AND INNOVATION

With its gas, light oil and dual fuel VECTRON burner series, ELCO offers a product range capitalising on more than 90 years of experience in the development of combustion technologies.

All VECTRON series burners are characterised by ease of installation, adjustment and maintenance resulting in an excellent designed product.

ENVIRONMENT: PREFER A CLEAN TECHNOLOGY

Thanks to innovative combustion technologies and the experience developed on the field, ELCO is able to offer a Low NOx range able to meet -or exceed- the highest requirements and comply with the European Emission Standards, as well as those of many other countries, such as the ErP Directive.

Versions with FGR System able to reach NOx values below 30 mg/kWh are also available starting from the platform VG5.

MAINTENANCE: RAPID AND EASY

In order to grant cost benefits and high performance on all VECTRON models, ELCO implemented features that simplify commissioning and allow quick and efficient burner maintenance.

Forease of maintenance, the combustion parts can be quickly removed, cleaned and, even when they are disassembled, re-assembly is problem free.

COMMUNICATION: AN INTUITIVE AND INTERACTIVE SYSTEM

VECTRON has been the first range of ELCO burners to integrate the innovative MDE2 System and ELCOGRAM, a universal language composed of pictograms and numerical data.

This ensures that information is easier to read more than ever before, constantly giving real-time information to engineers, during the commissioning, operation and at each operation cycle.

RANGE OVERVIEW:

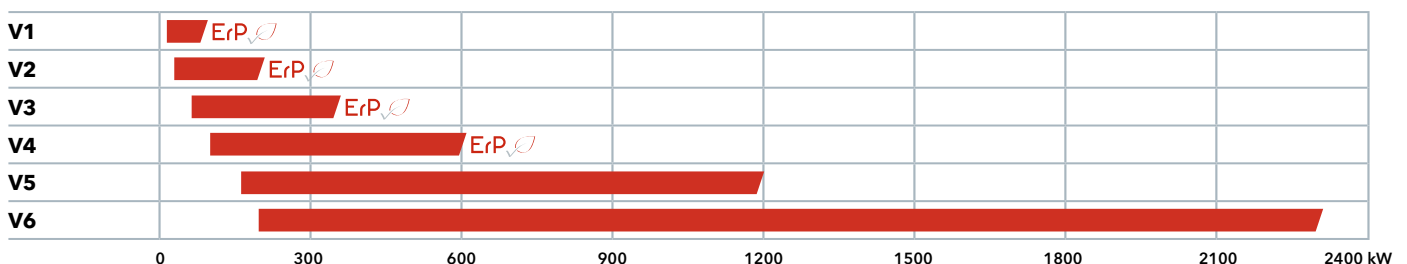


/ GAS RANGE
15 / 2300 kW

/ DUAL FUEL RANGE
35 / 2050 kW

/ LIGHT OIL RANGE
11 / 2080 kW

/ ErP / LOW NOx / ULTRA LOW NOx
up to 1900 kW



PROTRON 1...3

MONOBLOCK BURNERS
FROM 17 TO 550 kW
GAS AND LIGHT OIL



THE PERFECT CHOICE FOR LIGHT INDUSTRY

The PROTRON range has been especially designed for light industry applications: better heat resistance, compact layout, easy to maintain, integral protection cover, graphic display.
PROTRON burners are characterised by high versatility allowing this range to be used in several installations within the process industry: ovens, dryers, spray booths, incinerators, hot air generators.

HIGH VERSATILITY IN ANY SITUATION

The range has been developed in order to fit to any installation requirement. PROTRON burners are available in two different models:

- cubic structure: fully enclosed burner with optimal accessibility and flexibility;
- gun structure: high performance ventilation and maximum compactness.

The maximum flexibility is defined by a wide choice of configurations: quick start, tightness control, adjustable pre-purge and post-purge, permanent ventilation.

SOFTWARE PROGRAMMING FOR MAXIMUM FLEXIBILITY

Each burner is configured in the factory by our technicians according to the customer's needs through a serie of parameters and options, such as quick start, tightness control, adjustable pre-purge and post-purge, permanent ventilation.
To meet various application requirements 8 combinations of software programming are possible.

RELIABILITY IN ALL CONDITIONS

A necessary feature for process industry applications is the reliability, and the PROTRON range ensures it in all conditions, even when operating at higher temperatures.
All PROTRON models have been designed with metal parts where higher temperature can be reached, assuring the continuity of the operation even in the most challenging situations.

RANGE OVERVIEW:

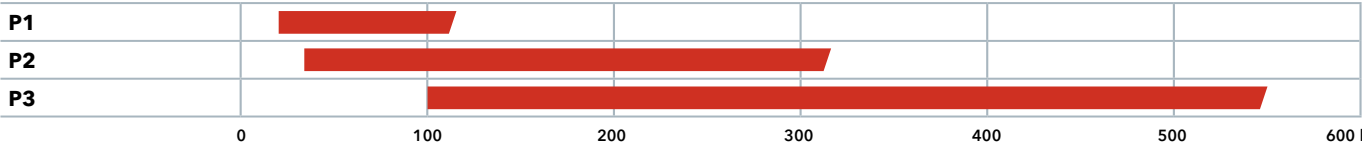


GUN / GAS RANGE
17 / 500 kW

GUN / LIGHT OIL RANGE
18 / 550 kW

CUBIC / GAS RANGE
33 / 210 kW

CUBIC / LIGHT OIL RANGE
30 / 210 kW



EK EVO 4 / 5

MONOBLOCK BURNERS
FROM 260 TO 1450 kW
LIGHT OIL



ROBUST AND RELIABLE DESIGN

The structure of the EK EVO 4 and 5 is characterized by an essential e simple design, developed to meet the needs of any heating application and industrial process. This range has been specifically designed to adapt to any condition, combining resistant and reliable materials with extreme ease of use and great comfort during the daily operation.

FLEXIBILITY AND VERSATILITY

EK EVO 4 and 5 are characterized by a high flexibility of installation and operation. The easily adjustable sliding combustion head with dedicated servomotor guarantees high adaptability to varying boiler situations and required emission level. The simple and intuitive switch cabinet allows to easily meet the majority of the application requirements: burner control, power regulator and all other options can be installed on the switch cabinet thanks to a modular concept design.

EFFICIENT AND PRACTICAL OPERATIONS

All EK EVO models are fully electronically controlled and equipped with the highly appreciated ELCO man-machine interface, allowing simple and effective programming operations. This results in smooth and performing operation and a quick and simple interaction between the user and the burner.

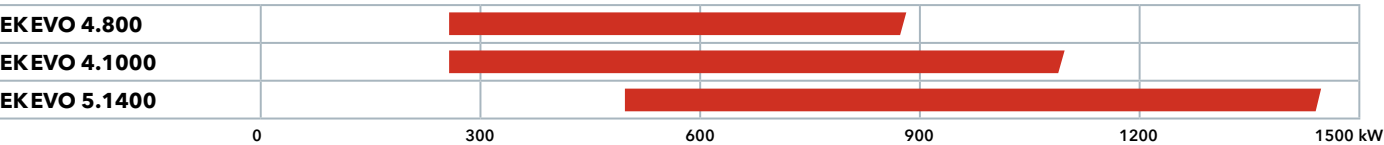
ULTRA LOW NO_x COMBUSTION HEAD

EK EVO 4 and 5 are two stage progressive/modulating forced draught burners, working with light oil and equipped with low emission combustion technology, that makes these burner series able to outperform the most rigid regulation in terms of pollutant emissions. The Ultra Low NO_x combustion head of this range provides flame stability, excellent performance and NO_x emissions below 80 mg/kWh, well below the limit of 120 mg/kWh imposed by the EN267/2020 Directive.

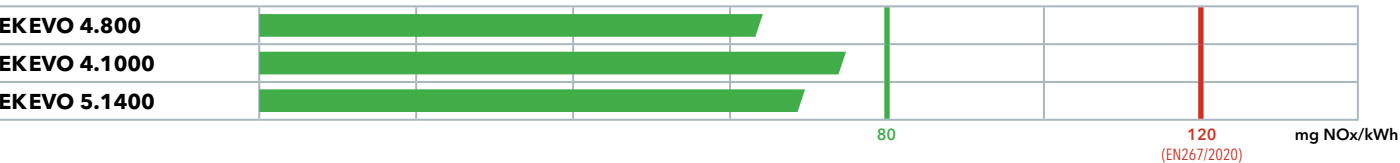
RANGE OVERVIEW:



/ LIGHT OIL RANGE / ULTRA LOW NO_x
260 / 1450 kW



NO_x EMISSIONS:



EK EVO 6...9

MONOBLOCK BURNERS
FROM 250 TO 13500 kW
GAS, LIGHT OIL AND DUAL FUEL



ROBUST AND WELL ENGINEERED DESIGN

The design of the EKEVO is the outcome of a successful synergy between ELCO key features and essential design. EKEVO introduces a brand new aluminium body casing, enhancing the visual choice of ELCO. Professionals will appreciate the flexibility of a 180° orientable air inlet, the compact switch box and the easy to clean glossy paint.

SMART SOLUTIONS FOR EASY MAINTENANCE

The maintenance of the EKEVO burners can comfortably be carried out thanks to a wide opening above the housing, allowing easy access to the combustion components, and thanks to the choice of the material: aluminium, lightweight to handle and resistant at the same time. Maintenance operations are possible without disturbing the burner head and setting.

A TOTAL ADVANTAGE IN TERMS OF FLEXIBILITY AND EASE OF USE

The EKEVO are characterized by their total flexibility of installation; they have been designed to be installed in different ways: up-firing, down-firing, upside-down or side-to-side (twin chamber boilers). All EKEVO models are fully electronically controlled and equipped with the exclusive ELCO interface allowing simple and effective communication between burner and technician.

LOW NOx AND ULTRA LOW NOx VERSIONS WITH FGR SYSTEM

ELCO implements low NOx combustion technologies to reduce pollutant emissions and satisfy even the most stringent regulations on all its EK EVO burners. Ultra low NOx emissions below 30 mg/kWh are reachable with the installation of the FGR System on all the models of the range in gas and in dual fuel operation.

RANGE OVERVIEW:

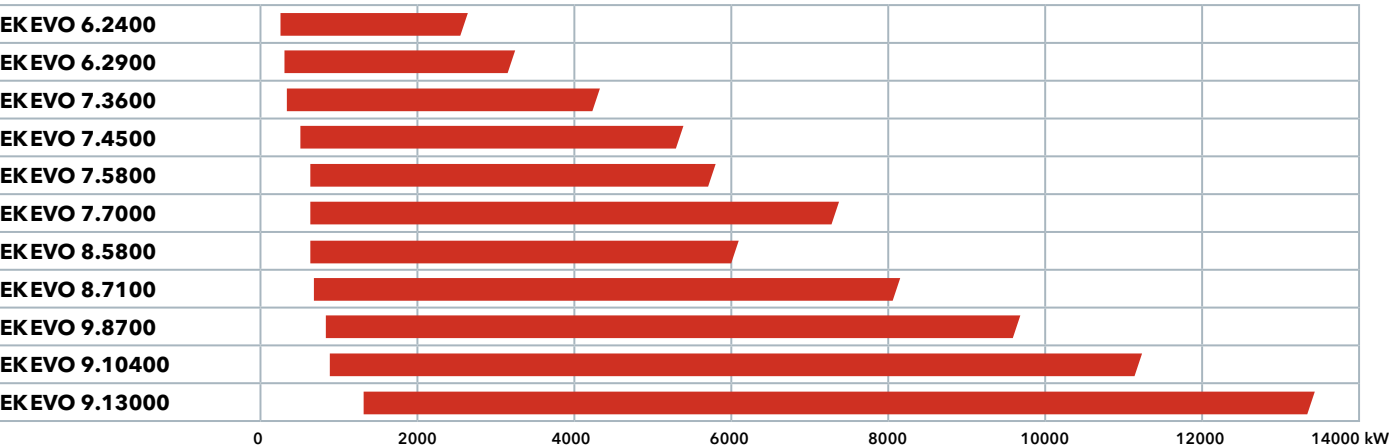


/ GAS RANGE
340 / 13500 kW

/ DUAL FUEL RANGE
250 / 10620 kW

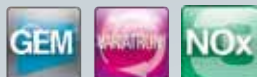
/ LIGHT OIL RANGE
360 / 10620 kW

/ LOW NOx / ULTRA LOW NOx
up to 13500 kW



NEXTRON 6...9

MONOBLOCK BURNERS
FROM 250 TO 11200 kW
 GAS, LIGHT OIL AND DUAL FUEL



SMOOTH AND INTEGRAL DESIGN

The original and recognizable design of the NEXTRON® range is the result of a successful integration between the burner and ELCO technologies.

NEXTRON® burners are able to perfectly integrate themselves in any installation and professionals will appreciate the innovative construction that makes these burners maintenance friendly.

HIGH ACOUSTIC COMFORT

The NEXTRON® burner range offers a high acoustic comfort thanks to the Low Noise System.

The unique air intake channel is carefully designed to achieve an acoustic level significantly lower than 80 dB(A) on burners capable to reach power output above 10 MW. This integrated and patented system on all NEXTRON® burners is definitely a good replacement of the traditional bulky and expensive sound proofing box.

UNIQUE LOW NO_x PERFORMANCE

Developed and improved by ELCO R&D department, the Free Flame technology is a unique combustion process. This ELCO technology is capable to reach the NO_x levels required by the most severe standards for all types of combustion chambers, whether they are 3-pass or reverse pass boilers.

MODULAR SWITCH CABINET BUILT-IN

All the NEXTRON® burners feature integrated switch cabinet, the ISC System, with modular concept for control devices and accessories: adjusting and safety control box, EMC protected power circuit of fan motor, display with command keyboard within the front of the panel.

The ISC System houses options and accessories, such as the power regulator and the frequency inverter Variatron. Each burner can be customised according to the installation requirements.

RANGE OVERVIEW:

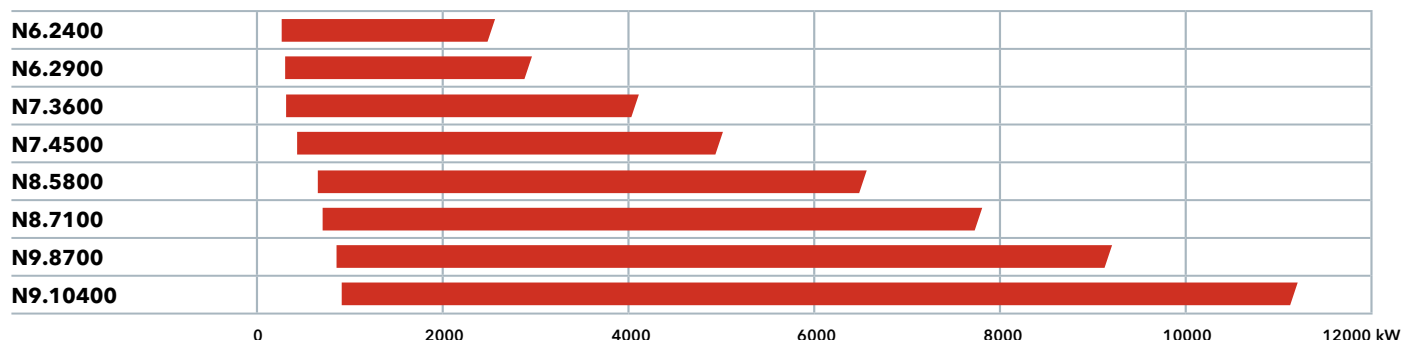


/ GAS RANGE
340 / 11200 kW

/ DUAL FUEL RANGE
250 / 10620 kW

/ LIGHT OIL RANGE
360 / 10620 kW

/ LOW NO_x
up to 10200 kW



N 10 / 11

MONOBLOCK BURNERS FROM 1300 TO 22000 kW GAS, LIGHT OIL AND DUAL FUEL



HIGH POWER AND EASE OF USE

Where a compact solution is needed, a monoblock burner offers advantages over individual components. However, above a power output of 10 MW, the conventional burner becomes too heavy: ease of handling during installation and maintenance work suffers, the strain on the boiler door is too high.

The N burners solve this problem with innovative and weight-saving technology. The key feature is the physical division of the burner into a support frame and a separate air-routing housing.

ULTRA LOW NOx TECHNOLOGY, UP TO 22 MW

Thanks to the introduction of the new N11 model and the innovative solutions of this range, ELCO is able to provide high performance and ease of use on its monoblock range up to 22 MW.

The implementation of the FGR System enables to guarantee NOx emissions of less than 30 mg/kWh for all the models of the N range.

SIMPLIFIED STRUCTURE TO IMPROVE USABILITY

The burner head and the housing have been almost entirely separated in order to allow sufficient space for the combustion components to be easily removed. The air pipe between the housing and the burner head is simply closed by a removable cover. It is no longer necessary to pivot the entire body of the burner to one side or the other.

An added advantage is the ability to fix the frame to the ground, depending on the application, thus relieving the boiler door from any mechanical stress.

ADVANCED DESIGN FOR LOW NOISE LEVELS

Special attention has been paid to the fan design. The burner's acoustic level meets industry standards, providing a more comfortable working environment.

The two main characteristics which limit the noise emitted by a fan are a high and constant static pressure and the use of a wheel with rear facing blades. The result is a stable combustion and reduced noise at the air inlet.

RANGE OVERVIEW:

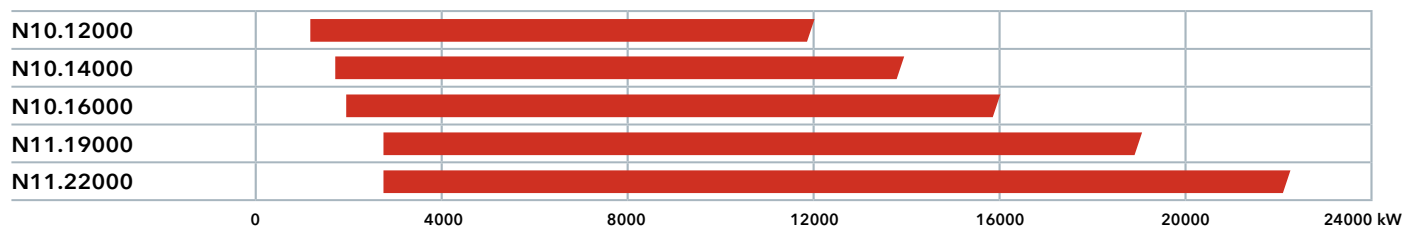


/ GAS RANGE
1300 / 22000 kW

/ DUAL FUEL RANGE
1300 / 22000 kW

/ LIGHT OIL RANGE
3000 / 22000 kW

/ LOW NOx / ULTRA LOW NOx
up to 22000 kW



HO-TRON 0...7

MONOBLOCK BURNERS
FROM 68 TO 17000 kW
HEAVY OIL



HEAVY OIL BURNERS UP TO 17 MW

ELCO offers a wide range of heavy oil burners designed for traditional applications and industrial process applications. The HO-TRON range offers several models available in different configurations with a power output covering a range from 68 kW to 17 MW. All models are suitable to work with heavy oil up to 50°E at 50°C.

EASY MAINTENANCE SOLUTIONS

All models feature easy access to the combustion component in order to simplify the maintenance operations. The maintenance activities are simplified also thanks to the slide bar system, which allows easy access to the combustion components, available on all models up to HO-TRON 6.

BURNER VERSIONS TO SUIT ANY NEED

In order to optimize the performance and the ease of use, the HO-TRON burners are available in the following versions:

- one stage, for HO-TRON 0 and HO-TRON 1, models up to 340 kW;
- two stages, up to the model HO-TRON 4;
- two stage progressive mechanical operation (up to 17 MW).

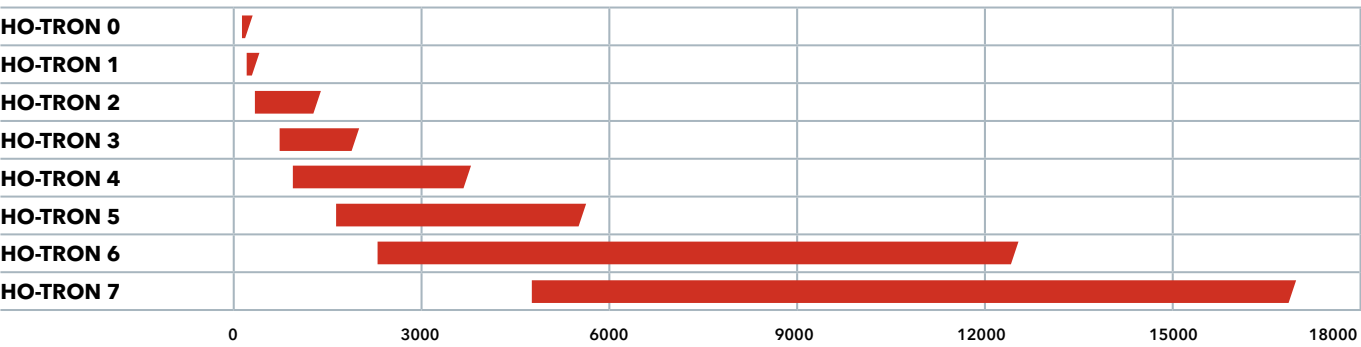
FLEXIBILITY AND CUSTOMIZATION

All HO-TRON burners are fitted with heavy oil electric heating system on board and integrated electrical panel complete with pre-heater management system. Ring system components for oil preparation can be designed and supply on request. For a large extent of applications customized solutions can be offered in order to meet plants requirements.

RANGE OVERVIEW:



/ HEAVY OIL RANGE
68 / 17000 kW



GHO-TRON 3...7

MONOBLOCK BURNERS
FROM 410 TO 17000 kW
DUAL FUEL (GAS/HEAVY OIL)



DUAL FUEL BURNERS WORKING WITH GAS AND HEAVY OIL

All GHO-TRON burners are fitted with special components for heavy oil combustion and are suitable to work with natural gas or heavy oil up to 50°E at 50°C. The range includes models ranging from a minimum capacity of 414 kW to a maximum power output of 17 MW.

SPECIAL FEATURES FOR HEAVY OIL COMBUSTION

Models starting from GHO-TRON 3 are equipped with digital thermoregulator integrated on the front panel to grant temperature stability of the fuel. All the burners of the series have an heavy oil electric heating system on board and, starting from GHO-TRON 6, gas pilot included with separate supply line. Configured and special version on request for selected type of applications and fuel characteristics.

BURNER VERSIONS TO SUIT ANY NEED

The GHO-TRON dual fuel range is available in two different configurations:

- two stage version with electric servomotor and integrated system for the regulation of air and fuel for the model GHO-TRON 3
- two stage progressive version with electrical servomotor and double adjustable mechanical cam that allows air and fuel fine tuning (for models up to 17 MW).

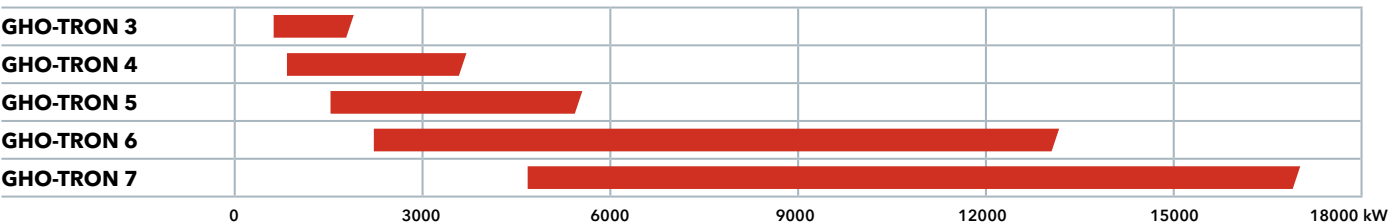
EASY MAINTENANCE SOLUTIONS

GHO-TRON burners feature an adjustable combustion head for easy regulation and matching with different combustion chambers. All burners are characterized by easy access to the combustion component in order to simplify the maintenance operations.

RANGE OVERVIEW:



/ DUAL FUEL (GAS/HEAVY OIL) RANGE
414 / 17000 kW



RPD 20...160

DUOBLOCK BURNERS FROM 500 TO 80000 kW

GAS, LIGHT OIL, HEAVY OIL AND DUAL FUEL



ALL THE BENEFITS OF THE SEPARATE VENTILATION

In contrast to monoblock burners, duoblock burners are made up of two units, or blocks, as the name implies: the burner head with the air inlet, and the separately-installed fan; the two units are connected via an air duct.

The separate installation of the fan offers several benefits:

- the fan can be installed in a separate room, for instance in the cellar; this results in considerably lower noise levels in the boiler room; when the fan is installed in the same room, a fan enclosure can be used to achieve optimum sound absorption, without inhibiting access to the burner;
- less space required in front of the boiler and in the combustion chamber;
- individual fan layout with optimum adaptation of the fan characteristic curve to suit the pressure ratio of the heat generator; this guarantees pulsation-free and stable burner behaviour, even on heat generators with high resistance on the exhaust side;
- combustion air can be pre-heated to increase installation efficiency;
- lower weight loading on the boiler front.

MAXIMUM FLEXIBILITY FOR HIGHLY CUSTOMIZED SOLUTIONS

Thanks to their extreme flexibility, RPD burners are suitable for almost any firing-related task.

All RPD models are fitted with adjustable air deflector plates, which can be used to swirl the combustion air. The flame configuration can hereby be directly influenced according to the geometry of the combustion chamber. The combustion head features optimised internal geometry to reduce head loss and the power demand of the fan motor.

Pre-heated combustion air up to 350°C can also be used in order to achieve greater energy-saving potential.

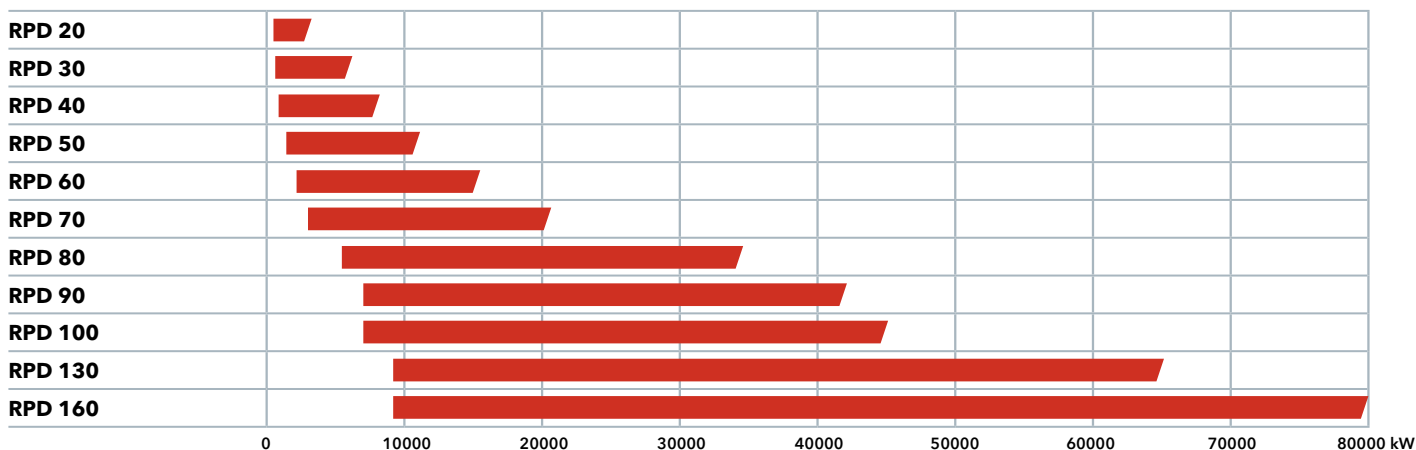
HIGH-TECH SOLUTIONS TO MEET ANY CUSTOMER REQUIREMENT

The flexible and modular design of the RPD range, combined to the fact that it is based on a wide range of solutions that have proved effective in practice, makes this burners suitable to be used in all those cases where complex tasks and high technical requirements demand customised heating installation solutions.

Typical examples of use include:

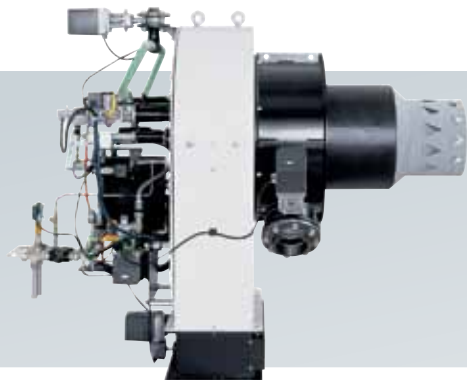
- use with multiple gases and/or multiple liquid fuels, simultaneously;
- applications where the use of special fuels is required, such as hydrogen
- water tube boilers used in big heating installations and industrial processes with a remarkable thermal demand;
- refinery processes and chemical industry applications;
- waste incineration plants.

RANGE OVERVIEW:

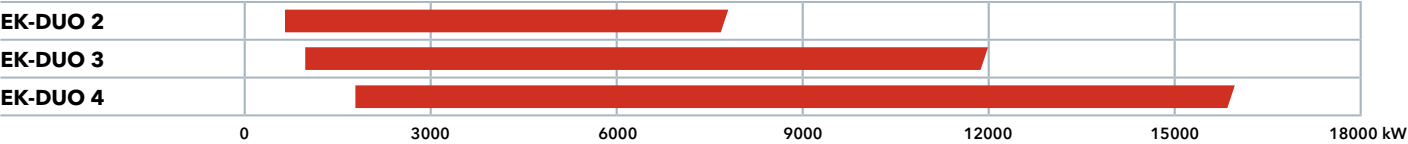


EK-DUO 2...4

DUOBLOCK BURNERS
FROM 600 TO 16000 kW
GAS, LIGHT OIL AND DUAL FUEL



The EK-DUO models are high-performance burners offering well-engineered duoblock technology at an affordable price. These burners are predominantly used to burn standard fuels, i.e. domestic light oil and natural gas, and are used in shell boilers, water tube boilers and thermal oil boilers. The separate fan installation of the burner allows to overcome high combustion chamber resistance. The tried-and-tested Diamond burner head for gas burners or the Free Flame burner head for oil or dual fuel burners grant high performance and low emissions, meeting the most stringent Low NOx requirements. The fuel-air mixture is adjusted solely using a modern electronic compound controller.

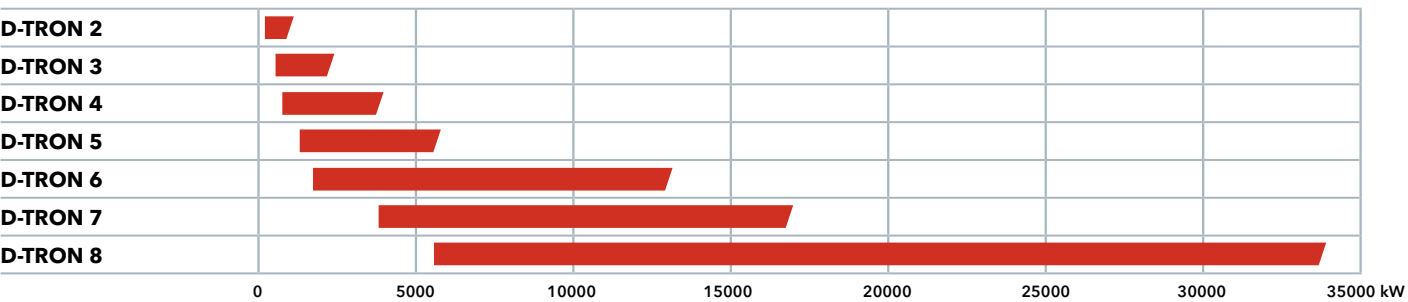


D-TRON 2...8

DUOBLOCK BURNERS
FROM 230 TO 34000 kW
GAS, LIGHT OIL, HEAVY OIL AND DUAL FUEL



Thanks to their extreme flexibility and ease of use D-TRON burners are suitable for all types of installation up to 34 MW. Burners can be assembled with an air duct connection in different layouts in order to meet a wide range of specifications in terms of performance and overall dimensions. Versions suitable to work with pre-heated combustion air up to 200°C can be used in order to achieve greater values of efficiency. All D-TRON models feature easy maintenance: access to the combustion head and to the internal components is allowed from the housing top cover with a single operation, without removing the burner from the boiler. The clear layout allows rapid cleaning of the mechanical components, keeping the installation in good conditions.



TECHNOLOGIES AND SYSTEMS

To constantly improve its products, ELCO is committed to develop innovative technological solutions allowing to optimise the running of the installations, to ease technicians work, and naturally to preserve the environment.

In order to provide quick responses to its market's demands, the range of ELCO burners is entirely conceived around a consistent combination of Systems.

MDE2 SYSTEM

Permanent communication of information easy to use

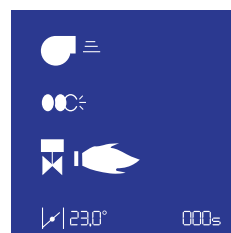
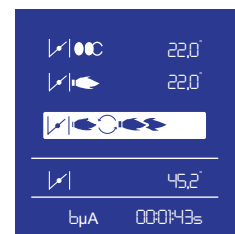
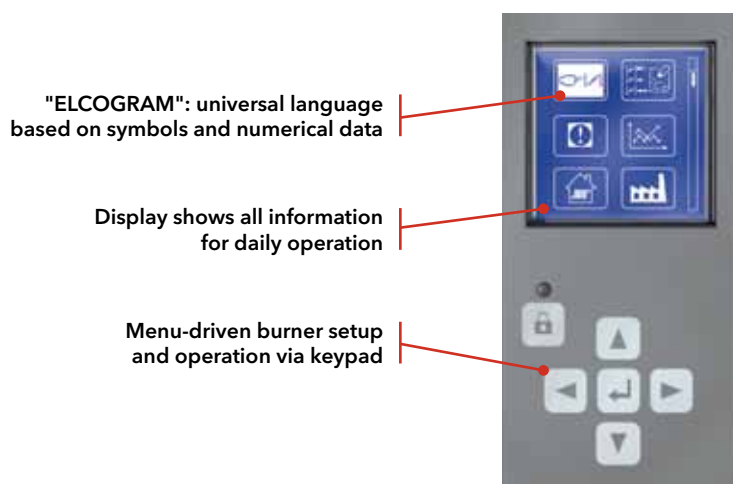


Equipped with the MDE2 System, the universal language Elcogram and the 5-button keyboard, ELCO burners adjust themselves and constantly communicate to the technicians and operators:

- real time information about each ignition and during the running;
- statistical information about the burner operations recorded during the whole year before the maintenance operations.

Elcogram, a universal language

As ELCO products are distributed worldwide, the company has developed a universal language composed of pictograms and numerical data. The pictograms use the majority of the symbols used on the wiring diagrams which are recognised and understood by all Nations. This ensures that information is easier to read than ever before.



CMS SYSTEM

The evolution of combustion management systems



CMS is a brand new system for burner management that sets new standards in control automation. The system provides a full combustion management solution that meets all relevant safety standards, and is certified for all main markets and Standards.

CMS system is simple and easily configurable to meet a wide range of application requirements, from low cost to high end solutions, for industrial or residential applications.

The CMS grants efficient communication via BUS and is extremely flexible due to the fact that is fully configurable, fully compatible with external devices/systems and fully scalable, allowing additional functions, such as VSD fan control, oxygen trim and CO control. A wide number of interfaces are available, from low-cost keypad to high-resolution touchscreens, allowing intuitive and easy interaction between user and machine.



TECHNOLOGIES AND SYSTEMS

AGP SYSTEM

An outstanding technology for gas burners



Developed and produced by ELCO, the AGP System (proportional air-gas) provides:

- perfect stability of the air-gas mixture;
- a constantly high CO₂ content over the whole burner power range;
- precise control of air excess, which is important for high-efficiency operation, in particular for condensing generators.

The AGP measures: the gas pressure downstream of the gas train, the air pressure behind the flame holder and the furnace backpressure.

Any variations in the three pressures are immediately and simultaneously recorded by the system which automatically restores the correct gas/combustion air ratio.

AGP maintains a constant gas/combustion air ratio even in the presence of:

- positive or negative variations in the gas pressure;
- variations in air flow due to changes in the electrical supply voltage or fouling of the ventilation system;
- variations in the furnace and flue draft pressure on start-up and during load changes.

GEM SYSTEM

Electronic burner control: high safety and low costs



The use of electronic technologies in burner control systems helps to reduce running costs, improve reliability of operation and lower pollutant emissions. The electronic combustion manager used on ELCO burners are responsible not only for the burner control (formerly the task of the traditional automatic combustion control unit) but also for fuel/air regulation. Data stored electronically has replaced the mechanical characteristic curve and help to achieve an unprecedented level of precision in air/fuel ratio regulation across the burner's entire control range, a prerequisite for efficient, energy- and cost-saving operation.

The GEM System controls the position of one or more activators simultaneously.

The servomotors of the air flow and oil components are controlled by a microprocessor which contains set points defined for each load curve. An additional advantage of the GEM is that it provides specific information on all the commands and current situation of the overall system: these can be accessed directly or by remote control.

The digital programming is user-friendly, it is carried out through the display of the MDE2 System or through a PC by using a simple procedure facilitated by easy instructions in a clear language.

VARIATRON

Speed regulation: noise reduction and energy saving



To improve the performance of heating or industrial systems, ELCO applies Variatron (fan speed control).

Conventionally, the air in modulating burners is regulated by an air flap. In the partial load range, a large amount of the air pressure generated by the ventilator goes to waste.

With speed regulation, the speed of the combustion-air fan is varied continuously depending on the burner output required. Full speed is reached only at maximum burner output. In the predominant partial load range, lower speed translates into significant reductions in power consumption and noise emissions.

The Variatron operates in step with the air damper both with the GEM System and with the AGP System, which guarantees a combustion with minimum air excess by continuously monitoring all operating conditions.

Application of the Variatron to ELCO burners results in:

- electrical consumption savings in the order of 50%;
- turndown ratio of up to 1:10, resulting in perfect adaptation to system requirements and improvement in average seasonal efficiency, in particular with condensing or low-temperature boilers or specific processes;
- silent start-up and average overall noise reduction between 2 dB(A) (at maximum power) and 12 dB(A) (at minimum power).

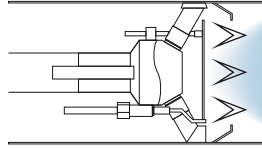
TECHNOLOGIES AND SYSTEMS

DIAMOND HEAD

Low emissions and reliable operation



The principle of Diamond Head combustion technology is based on the internal recirculation of the combustion flue gases. The gases are partially drawn into the base of the flame via triangular openings placed at the end of the combustion head.



The position and geometry of the gas injectors are such that a significant quantity of combustion flue gas is drawn in and rapidly mixed with air and gas at the root of the flame.

This mixture crosses the main reaction area, slowing the combustion, which resulted in lowering the main flame temperature. The result of this staging combustion is a significant reduction in the formation of thermal nitrogen oxides.

The advantage of this internal recirculation technique is an automatic adjustment to the quantity of recycled combustion flue gases: the volume of the flame is always as low as possible, which has a very minor effect on the nominal power of the generator, unlike external recirculation systems.

FREE FLAME

The pinnacle of low-polluting burner engineering

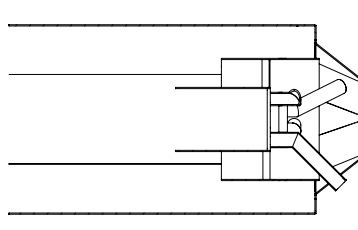


The Free Flame combustion technology is based on the internal recirculation of the flue gas, combined with high speed flow of the fuel air mixture.

The flame stabilizes at a certain distance from the combustion head, thus leaving space for the mixture of reagents and flue gas.

This phenomenon greatly reduces NO_x emissions.

The flame seems to float in the furnace, thus giving the system its name: «Free Flame».



FGR SYSTEM

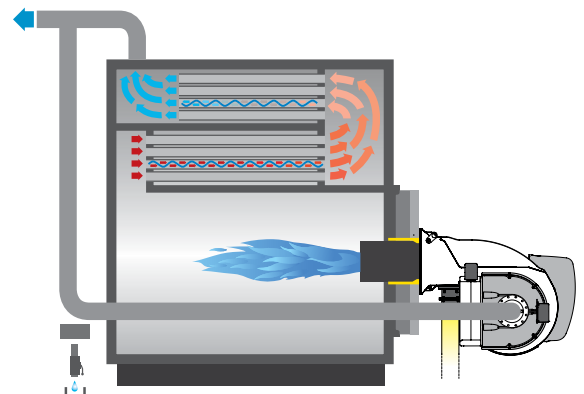
Ultra low NO_x solutions to reach emissions of less than 30 mg/kWh



Thanks to its experience and the technologies it has developed over the years, ELCO offers a wide range of products which use the external FGR technology to reduce NO_x emissions and satisfy even the most stringent regulations.

The principle of external flue gas recirculation consists in sending a mixture of comburent air and flue gas to the combustion head, thus reducing the NO_x emissions. The gases are mixed upline of the combustion process by the burner fan (for monoblock units) or by the external fan (in case of duoblock burners).

This technology enables ELCO to guarantee emissions of less than 30 mg/kWh, a value which is hard to obtain with conventional combustion systems, and offer cutting-edge products which satisfy the requirements of any current regulations.



CUSTOMER CARE

COMMISSIONING, MAINTENANCE AND INSPECTION

For safe and efficient operation of your burner system it is very important that the burner is commissioned by a competent person.

The combustion will be optimally adjusted over the whole power range of the burner, and all the safety devices will be tested.

To keep your installation in good conditions, it is important to maintain the burner periodically.

It is also very important to inspect all the safety devices to ensure that your system operates safely.

Fortunately, you can rely on the professional services of ELCO which can perform this service for you.



THE BURNER ACADEMY

In order to respond to the needs of our customers we created a Burner Academy, a real training school where the knowledge of our technicians is passed on to our trainees.

We provide the opportunity for boiler room personnel, operators and engineers to attend a series of training sessions carried out on our test bench by highly qualified instructors, who hold the courses in English, German, French, Italian and Dutch language.

The Burner Academy uses various training locations where boilers are installed and where people can be trained in theory and in practice. We offer courses at different levels and also the possibility to handle all your needs in a customer-specific training.



RELIABLE SUPPLY OF SPARE PARTS

Spare parts have always had a great importance inside the ELCO world. Considering the high amount of parts involved in every single product, some of these parts might naturally need to be replaced. ELCO can count on an International network offering original spare parts in order to guarantee the highest quality, reliability and safe continued operation of the appliance.



WORLDWIDE SERVICE NETWORK

In Western Europe, ELCO has a well organised service network. Outside Western Europe ELCO uses a network of partners, consisting of well-trained local engineers, to carry out its service operations.

These technicians are able to perform both commissioning and local service and they do it in a very professional and efficient way.



WORLDWIDE REFERENCES



Altchemnitz, Germany

Fuel:
Natural gas

Total nominal output:
132 MW

Burners:
6x N11.22000 G-EU1



Beijing, China

Fuel:
Natural gas

Total nominal output:
180 MW

Burners:
4x RPD 100 G-EU



Velikiye Luki, Russia

Fuel:
Natural gas and dual fuel (gas/light oil)

Burners:
2x EK EVO 7.3600 G-E
1x EK EVO 7.4500 GL-EZ3



Seoul, South Korea

Fuel:
Natural gas and dual fuel

Total nominal output:
80 MW

Burners:
3x N10.16000.45 G-EU2 FGR
1x N10.12000.37 GL-EUF

WORLDWIDE REFERENCES



Białystok, Poland

Fuel:
Natural gas

Total nominal output:
41 MW

Burners:
2x RPD 70 G-EU2



Monza, Italy

Fuel:
Natural gas

NOx emissions:
Installation with FGR system to reach
NOx levels below 70 mg/kWh

Burners:
1x N11.19000 G-EU2



Stavanger, Norway

Fuel:
Natural gas

Burners:
2x EK-DUO 4.1600 G-E



Beijing, China

Fuel:
Natural gas

NOx emissions:
Installation with FGR system to reach
NOx levels below 30 mg/kWh

Burners:
1x EK EVO 8.5800 G-EU3 FGR
2x EK EVO 8.7100 G-EU3 FGR

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