

elco

PRODUCT RANGE 2015



Cutting-edge burners for heating and industrial applications

Our innovative soul

Being a specialist in burners conception and manufacturing, ELCO is nowadays one of the leaders in the combustion technology. By linking a strong innovative ability to a developing will, ELCO conceives performing and reliable burners that respect the environment as well as corresponding services, in order to establish a lasting relationship with its customers.

Our expertise

ELCO always looks for the best technologies and develops new ones to improve the efficiency of its solutions. Our R&D Laboratories are committed to develop innovative technological solutions allowing to:

- optimize the running of the installations lowering the use of primary energy;
- ease professional's work improving human machine interface and maintenance;
- preserve the environment lowering acoustic and exhaust gas emissions.



Pirna, Germany



Resana, Italy

Our product range

Our experience at combustion disposal in a complete range of burners from 15 kW to 45 MW:



VECTRON

Monoblock burners
from 15 to 2080 kW
Gas, light oil and dual
fuel operation



PROTRON

Monoblock burners
from 17 to 500 kW
Gas and light oil



EK EVO

Monoblock burners
from 340 to 11200 kW
Gas and dual fuel



NEXTRON

Monoblock burners
from 250 to 11200 kW
Gas, light oil and dual
fuel operation



N10

Monoblock burners
from 1300 to 16000 kW
Gas, light oil and dual
fuel operation



Our competent advice

Your contacts at ELCO and its partners are recognized experts with years of experience.

Our worldwide support starts from concept creation to planning, design and project management up to commissioning and on-going operation of the plant throughout its life cycle.

As an ELCO customer, you can rely on your installation to perform reliably. Our guarantee is backed up by a service that sets standards in our field.

Our worldwide network

Capitalising more than 80 years of working experience, ELCO has been capable to build 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

2 production plants

6 commercial branches

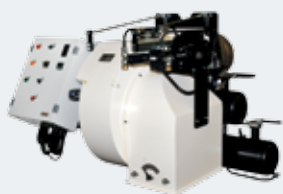
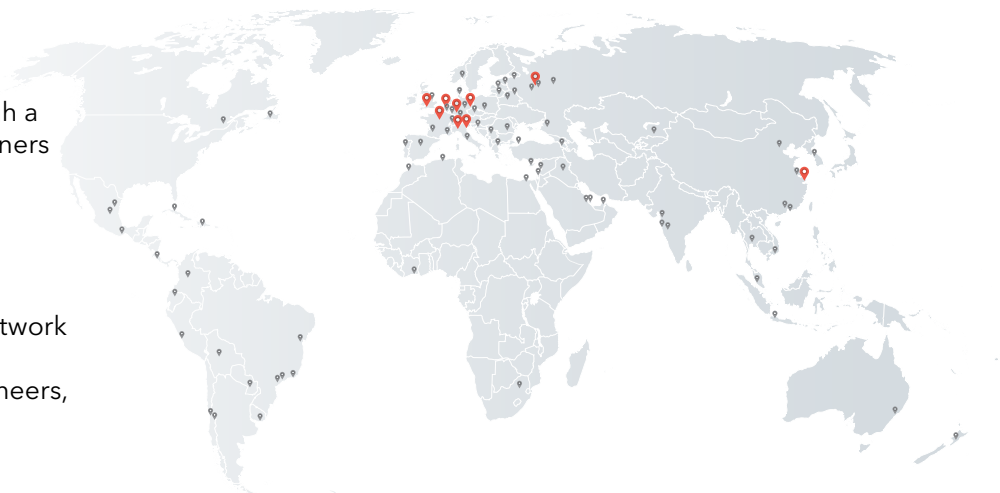
Strong commercial presence through a network of reliable dealers and partners

Worldwide

2 Sales Offices in Russia and China

Distribution in over 70 Countries

ELCO is developing a worldwide network of valuable Service Partners, consisting of well-trained local engineers, to carry out its service operations



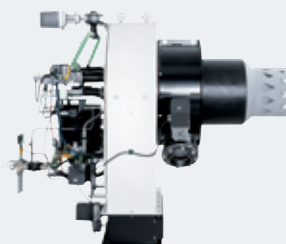
HO/GHO-TRON

Monoblock burners
from 68 to 17000 kW
Heavy oil and
dual fuel operation



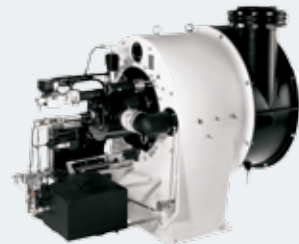
D-TRON

Duoblock burners
from 120 to 34000 kW
Gas, light oil, heavy oil
and dual fuel operation



EK-DUO

Duoblock burners
from 600 to 16000 kW
Gas, light oil and
dual fuel operation



RPD

Duoblock burners
from 500 to 45000 kW
Gas, light oil, heavy oil
and dual fuel operation

VECTRON

Monoblock burners from 15 to 2080 kW

Gas, light oil and dual fuel



	0	300	600	900	1200	1500	1800	2100 kW
V1								
V2								
V3								NEW
V4								NEW
V5								
V6								

An optimal combination of experience and innovation

With its gas and light oil burners series VECTRON, ELCO offers a product range capitalising more than 80 years of experience in the development of burners in all sizes.

All burners series VECTRON are characterized by ease of installation, adjustment and maintenance embedded in an excellent product engineering.



Environment: prefer a clean and silent technology

Committed in a continuous developing path, ELCO always develops new technologies to respect the environment. VECTRON burners are devoted to eco-friendly solution, granting reduced electrical consumption and being completely recyclable, packaging included. Low emissions versions, respecting the most stringent European directives, are also available:

- Low NOx class 3 in gas (<80 mg NOx/kWh)
- Low NOx class 3 (Blue and Eco models) in light oil (<120 mg NOx/kWh)

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. For an easier maintenance, the combustion parts can be quickly removed, easily cleaned and, even when they are disassembled, they easily get back to their position after all the servicing work.



Communication: an intuitive and interactive system

VECTRON has been the first range of ELCO 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 than ever before, constantly giving real-time information to professional operators, during the commissioning, the operation and at each operation cycle.

PROTRON

Monoblock burners from 17 to 546 kW

Gas and light oil



		0	100	200	300	400	500	600 kW
P1	NEW							
P2	NEW							
P3	NEW							

The perfect choice for light industry

PROTRON range has been especially designed for light industry applications: heat resistant, compact layout, easy maintenance, integral protection cover, graphic display. PROTRON burners are characterized 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 installation

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

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

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

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 high temperatures.

All PROTRON models have been designed with metal parts where high temperature can be reached, assuring the continuity of the operation even in the most extreme situations.



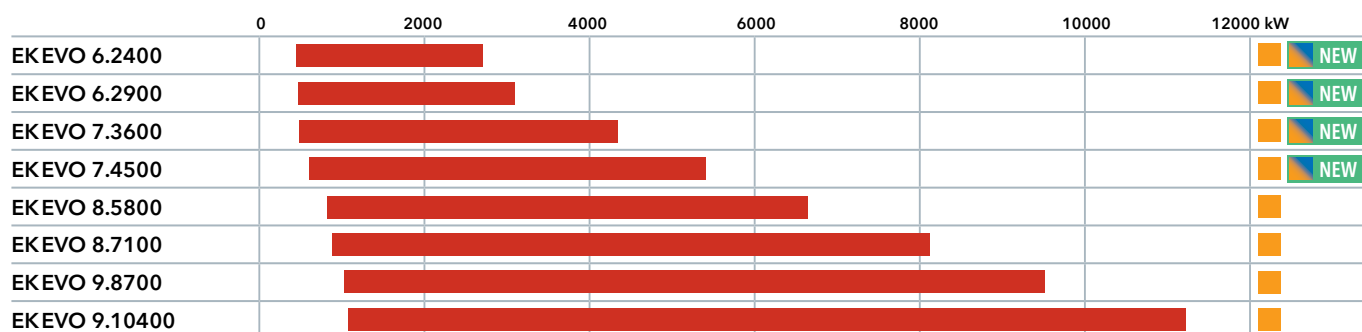
Software programming for maximum flexibility

Each burner is configured in factory by our technicians according to the customer 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.

EKEVO

Monoblock burners from 340 to 11200 kW

Gas and dual fuel



■ The whole project implies a complete multi-fuel high-power burner range up to 11 MW

Robust and professional structure

The design of the EKEVO® is the result of a successful synergy between ELCO key features and essential design.

EKEVO® introduces a brand new aluminium casting body and confirms the choice of ELCO about light colors and harmony of each shape.

Professionals will appreciate the flexibility of a 180° orientable air inlet, the compact switch box and the easy to clean glossy paint.



Electronics: easy and comprehensive

All EKEVO® models are fully electronically controlled and they are equipped with the exclusive ELCO man-machine interface allowing simple and effective programming operations.

A total advantage in terms of flexibility

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). Options and configurations have been foreseen in order to fulfill any application need.



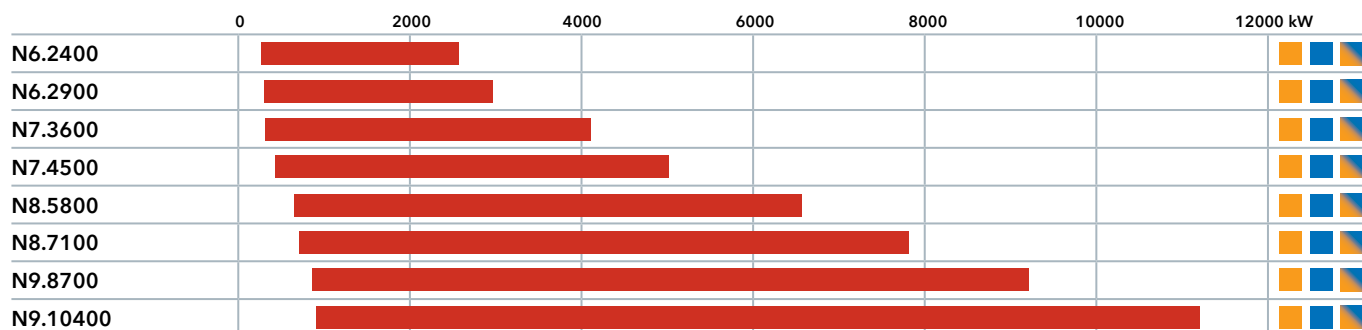
Smart solutions for easy maintenance

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 up to the fan, and thanks to the choice of the material: aluminium, lightweight to handle and resistant at the same time. Maintenance operations are possible keeping the original combustion components' setup.

NEXTRON

Monoblock burners from 250 to 11200 kW

Gas, light oil and dual fuel



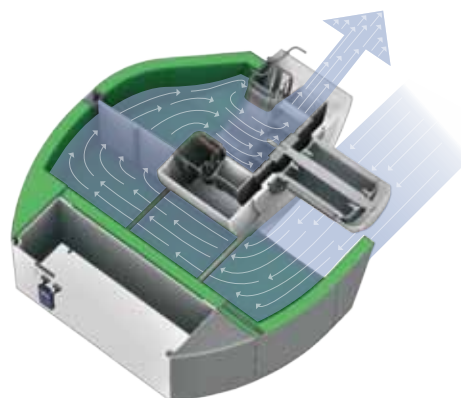
Design: smooth and integral

The original design of NEXTRON® range is the result of a successful integration between burner and ELCO technologies. NEXTRON® burners are able to perfectly integrate themselves in any installation and professionals will appreciate the innovative construction that ease maintenance.



Unique Low NOx 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 NOx levels required by the most severe standards for all types of combustion chambers, whether they are 3-pass or reverse pass boilers.



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) up to 10 MW. This integrated and patented system on all NEXTRON® burners is definitely a good replacement of the traditional bulky sound proofing box.



Built-in and modular switch cabinet

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 in front of the panel

The ISC System houses options and accessories, such as the power regulator and the frequency inverter Variatron, and customizes each burner according to the installation needs.

N10

Monoblock burners from 1300 to 16000 kW

Gas, light oil and dual fuel



	0	3000	6000	9000	12000	15000	18000 kW
N10.12000							
N10.14000							
N10.16000							

High power and ease of use up to 16 MW

Wherever 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. N10 burner solves this problem with innovative, weight-saving enclosure technology. The key feature is the physical division of the burner into a support frame and a separate air-routing housing. Thanks to its innovative solutions N10 provides high performance and ease of use up to 16 MW.



Load distribution and reduced weight

N10 is characterised by a chassis frame mounted directly on the door of the generator; this independently supports the fan and motor assembly, which constitutes a large proportion of the total weight of the burner. This structure significantly reduces the torque generated by the motor and, consequently, reduces the strain on the boiler door.

The choice of materials has been dictated by the need to reduce weight: as a result, the combustion air inlet is made of composite materials, and the air register flaps in aluminium.

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 generator door from any mechanical stress.



Advanced design for low noise levels

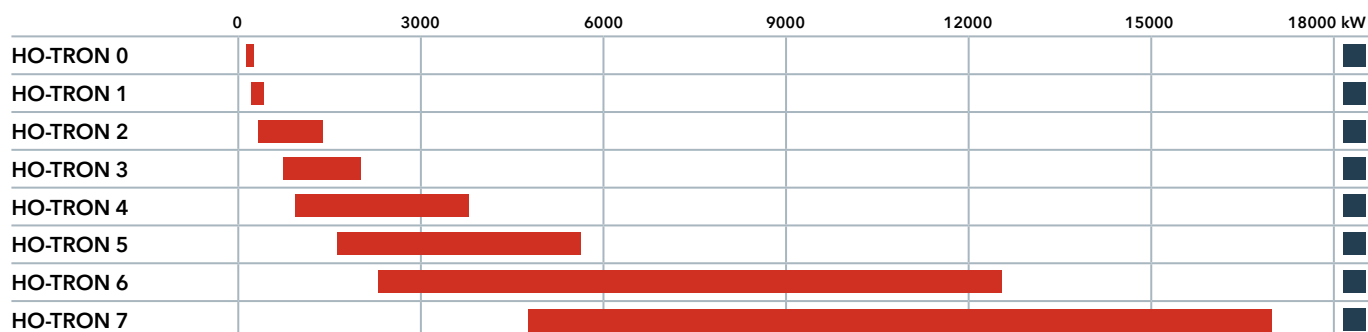
Special attention has been paid to fan design. The burner's acoustic level meets industry standards, providing a more comfortable working environment.

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 rearward facing blades. The result is a stable combustion and reduced noise at the air inlet.

HO-TRON

Monoblock burners from 68 to 17000 kW

Heavy oil



ELCO offers a wide range of heavy oil burners designed for traditional applications and industrial process applications. HO-TRON models for heavy oil up to 50°E at 50°C are available in the following configurations:

- one stage (HO-TRON 0-1);
- two stages (up to the model HO-TRON 5);
- two stage progressive mechanical operation (up to 17 MW).

All burners have easy access to the combustion component in order to simplify the maintenance operations.

For a large extent of applications customised solutions can be offered in order to meet plants requirements.

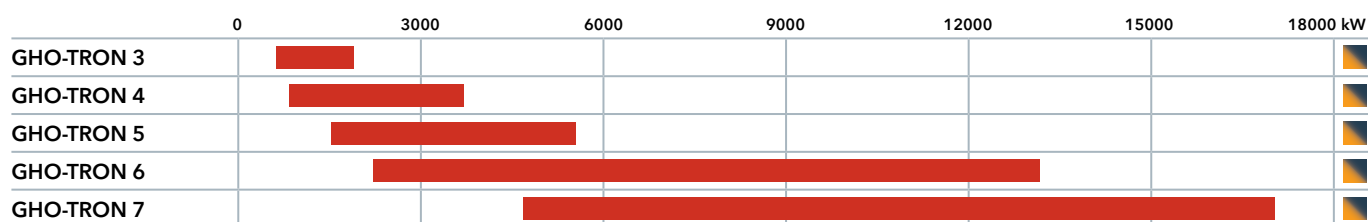
Ring system components for oil preparation can be designed and supply on request.



GHO-TRON

Monoblock burners from 410 to 17000 kW

Dual fuel (gas/heavy oil)



ELCO dual fuel GHO-TRON burners are suitable to work with natural gas or heavy oil up to 50°E at 50°C. GHO-TRON burners are available in two stages (GHO-TRON 3) and progressive version with electrical servomotor and double adjustable mechanical cam that allows air gas/heavy oil fine tuning (versions up to 17 MW).

Configured and special versions are available on request for selected type of applications and fuel characteristics



D-TRON

Duoblock burners from 120 to 34000 kW

Gas, light oil, heavy oil and dual fuel



		0	5000	10000	15000	20000	25000	30000	35000 kW
D-TRON 2	NEW								
D-TRON 3	NEW								
D-TRON 4	NEW								
D-TRON 5	NEW								
D-TRON 6	NEW								
D-TRON 7	NEW								
D-TRON 8	NEW								
D-TRON 9	NEW								

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 and ease of use D-TRON burners are suitable for all types of installation from 200 kW up to 34 MW.

Burners can be assembled with air duct connection in different layouts in order to meet a wide range of specifications in terms of performance and overall dimensions.

Terminal block configuration is provided as standard; versions with integrated control panel are available on request.

Versions suitable to work with pre-heated combustion air up to 200°C can be used in order to achieve greater values of efficiency.



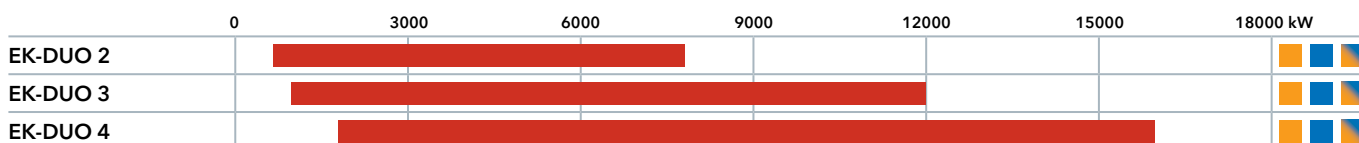
Low maintenance, high reliability

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 always in good conditions.

EK-DUO

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 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.

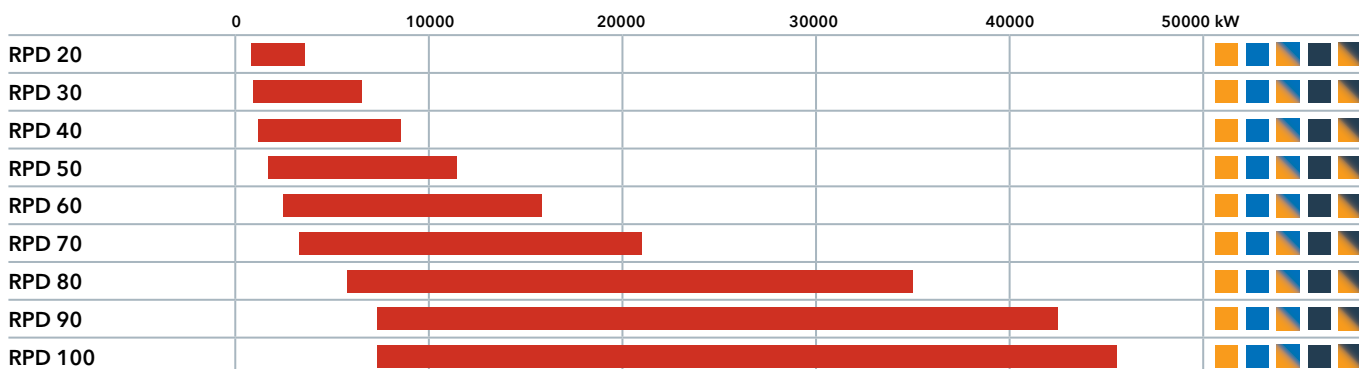
The tried-and-tested Diamond burner head for gas burners or the Free Flame burner head for oil or dual fuel burners grant high performance and low emissions, meeting the most stringent Low NOx requirements. The fuel-air mixture is adjusted solely using a modern electronic compound controller.



RPD

Duoblock burners from 500 to 45000 kW

Gas, light oil, heavy oil and dual fuel



RPD burners are suitable for almost any firing-related task. In addition to the torsion apparatus integrated in the air housing for the secondary air, they also have a separate adjustment option for the primary air, and therefore offer many adjustment possibilities for influencing flame geometry and atomisation. Thanks to its flexible, modular design and the fact that it is based on a wide range of solutions that have proved effective in practice, RPD burners are used anywhere where complex tasks and high technical requirements demand customised heating installation solutions. Typical areas of use include:

- burners for multiple gases and/or multiple liquid fuels;
- use of fuels with low calorific values;
- thermal disposal of gas or liquid substances;
- thermal neutralisation of exhaust air;
- pilot or auxiliary burners in waste incineration plants.

Burner control regulation may be designed in accordance with the task and is, where possible, implemented via digital combustion manager as well as an electronic compound for a precise fuel-air ratio.

For simpler tasks, mechanical compound systems are also available.



ELCO technologies and Systems

To constantly improve its products, ELCO is committed to develop innovative technological solutions allowing to optimize the running of the installations, to ease professional's work, and naturally to preserve the environment. In order to provide quick responses to its market's exigencies, 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 keypad, ELCO burners adjust themselves and constantly communicate to professional operators:

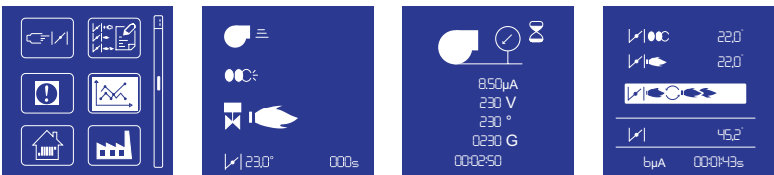
- real time information about each ignition and during the running;
- statistical information about burner operation recorded during the whole year before the maintenance operations.

"ELCOGRAM":
universal language
based on symbols
and numerical data

Display shows
all information for
daily operation

Menu-driven burner
setup and operation
via keypad





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.



GEM System

Electronic burner control: high safety and low costs

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 states 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.

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.



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, 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.



Variatron

Speed regulation: noise reduction and energy saving

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



Diamond Head

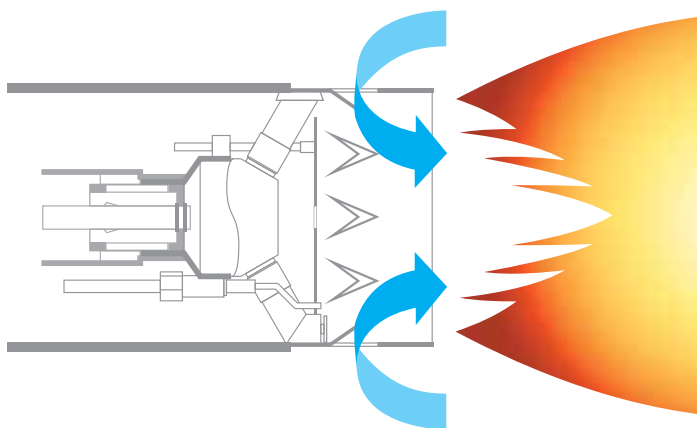
Low emissions and reliable operation

The principle of the Diamond Head gas combustion is based on the internal recirculation of the combustion flue gases. These are partially drawn into the base of the flame via triangular openings positioned 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.



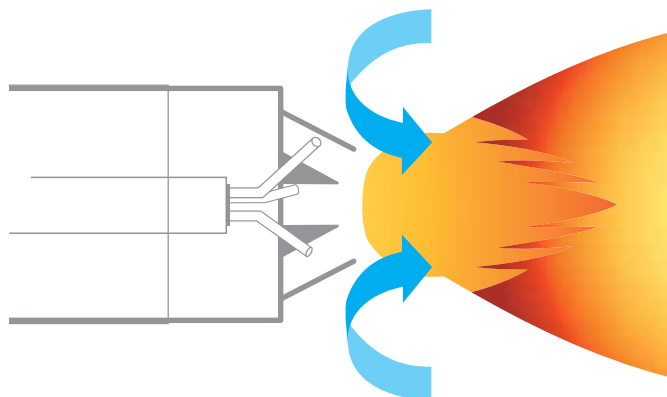
Free Flame

The pinnacle of low-polluting burner engineering

The principle of the Free Flame oil combustion is based on rapid gasification of the fuel by recirculating the combustion gases internally and allows the fuel-air to mix quickly.

Once the fuel has been vaporized, it will burn and stabilize 30 centimetres from the combustion head.

The flame appears to “float freely” hence the name “Free Flame”. The heat absorbed by the gasification oil will cause a significant drop in the flame’s temperature and a decrease in the formation of the thermal nitrogen oxide.



Technical assistance



Commissioning

For safe and efficient operation of your burner system it is very important that the burner is commissioned by an expert. The combustion will be optimally adjusted over the whole power range of the burner, and all the safeties will be tested. Of course you will receive a report. ELCO's service technicians are able, like no other, in performing this job adequate and competent, to run your installation worry-free.

Maintenance and inspection

The burner is a crucial part of the installation. To keep your installation in good conditions, it is important to maintain the burner periodically. It is also very important to inspect all the safeties to ensure that your system operates safely.

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

The Burner Academy

In order to respond to the needs of our customers we created the Burner Academy, a real school where the know-how of our technicians is diffused to our partners.

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 held 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.



Worldwide Service Network

In Western Europe, ELCO has a well organized 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 way.

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 substituted ELCO can count on a International network ELCO offering original spare parts in order to guarantee the highest quality, reliability and safe continued operation of the appliance.



Worldwide references



Beijing, China

End user:
Beijing Institute of Fashion
Technology

Burner type:
2x N7.4500 G-R
2x N7.3600 G-R



Stuttgart, Germany

End user:
Stuttgart Exhibition Centre

Burner type:
1x EK-DUO 2.550 GL-EUF
2x EK-DUO 2.700 GL-EUF



Hamburg, Germany

End user:
Albertinen Hospital

Burner type:
2x N7.4500 GL-E



Hohhot, Neimongol, China

End user:
Hohhot Longgang

Burner type:
2x EK EVO 6.2900 G-E



Amsterdam, Netherlands

End user:
Free University

Burner type:
2x RPD 60 GL-EU



Khanty-Mansiysk, Russia

End user:
Viessmann Russia

Burner type:
4x N10.12000 G-E

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about our products and solutions

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