

Innovative
SOLUTIONS

 EFTAEGYPT

**COMBUSTION
ENGINEERING**





WE ARE PROFESSIONAL, COMPETITIVE AND COMPETENT IN OUR SERVICE

Combustion Engineering

About us

EFTA-EGYPT is a well-known customer-oriented independent stocking distributor for electrical, mechanical and process control parts.

EFTA-EGYPT was established in 2005 as a part of EFTA Group. Our Head office is EFTA Elektrotechnik GmbH in Germany, which was established in 1992 **working in:**

- Combustion engineering and Automation, Basic engineering, Process engineering, Safety engineering, Details engineering (PLC, DCS and SCADA), Control panels
- Making instillation, start up and commissioning

EFTA-EGYPT has a proven history of high quality, performance, and reliability. We will quickly and accurately provide you with high quality products at competitive prices with no minimum order and will deliver them overnight from our extensive inventory. Performance testing is conducted to insure highest quality.

EFTA-EGYPT's primary mission is helping manufactures succeed and grow

We are leading in bringing electrical, mechanical and motion control systems of burners to companies with best service (quality, prices and delivery time) without MOQ

With industrial automation control and information solutions designed to give our customers competitive advantage

EFTA-EGYPT offers engineering solutions in motion control system of burners and boilers (start up and commissioning)

High competence and extensive experience of EFTA is proved by official certificate and many successful projects implemented all over Egypt



Company Profile:

- We are your reliable partner for water and steam boilers since 1977.
- It is our aim to provide you with safe, reliable, and efficient solutions for your steam and heat supply!
- Our products are manufactured in Austria to the very highest standards of quality and comply with the European Directives for steam boilers and pressure housing. All products bear the CE marking and are licensed for worldwide distribution.
- Our engineers are specialists in manufacturing steam and hot water systems. They have gained a wealth of experience and expertise in the many projects they have successfully completed over the years. Their valuable knowledge is guarded carefully by us.

Products:

Steam boilers

Gas-fired and oil-fired (extra light to heavy) or equipped with dual fuel burners (gas and oil).

THD - DRU

Description: boiler with less water

Steam performance: up to 700 kg steam / hour

Vapor pressure and temperature: up to 13 bar

THSD-I

Description: Three pass flame tube flue gas tube boiler for saturated vapor

Steam performance: up to 20.000 kg steam/hour

Vapor pressure and temperature: up to 30 bar



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THSD-IZ

Description: Three pass flame tube gas tube boiler for saturated vapor with two flame tubes
Steam performance: up to 50.000 kg steam/hour
Vapor pressure and temperature: up to 30 bar

THD-I

Description: Boiler for superheated steam
Steam performance: up to 20.000 kg steam/hour
Vapor pressure and temperature: up to 30 bar up to over 320 °C steam Temperature.

THD-IZ

Description: Boiler for superheated steam with two flame tubes
Steam performance: up to 50.000 kg steam/hour
Vapor pressure and temperature: up to 30 bar up to over 320 °C steam Temperature.



Hot water boilers

- Water heated up to over 120 °C is called hot water.
- Gas-fired and oil-fired (extra light to heavy) or equipped with dual fuel burners (gas and oil).

THW - I

Description: Three pass flame tube flue gas tube boiler for hot water
Heat capacity: from 12.000 kW
Pressure and temperature: up to 30 bar and temperature up to 113 °C

THW - IZ

Description: Three pass boiler with 2 flame tubes
Heat capacity: up to 24.000 kW
Pressure and temperature: up to 30 bar and temperature over 200 °C



Warm water boilers

Water heated up to a temperature of 120 °C is called warm water. The safety temperature limiter of this type of boiler is therefore set to a maximum of 120 °C. The system temperature can come as close as 7 °C to the safety temperature and can reach a maximum of 113 °C.

THW - INTE

Description: Three-Pass-Boiler, flame tube flue gas tube boiler for warm water.

Heat capacity: 5.000 to 20.000 Kw.

Pressure and Temperature: System pressure up to over 10 bar, temperature up to 117 °C



Waste heat boilers

Waste heat boilers are manufactured without flame tubes but have attached flue gas collectors at the boiler inlet. They are made to measure for the specific application and are usually used in biomass combustions, behind gas turbines or gas motors.

These boilers are produced as steam boilers, hot water boilers, and warm water boilers.

- Elco is World leader in production of gas, light oil and dual fuel burners for heating and industrial applications.
- Our Burners offer a wide range of solutions for heating applications and industrial services.

Product range:



VECTRON

- Capacity from 14,5 to 2,080 kW.
- It is available with gas, light oil and dual fuel.
- Low NOx versions are available.



NEXTRON

- Capacity from 250 to 11,200 kW
- It is applicable with gas, light oil and dual fuel.
- Low NOx versions are available.



N 10

- Capacity from 1500 to 16,000 kW
- It is applicable with gas, light oil and dual fuel.
- Low NOx versions are available.



EK-DUO, RPD

- Duoblock EK-DUO 2-4 from 600 to 16,000 kW
- Duoblock RPD 20-100 from 500 to 45,000 kW
- It is applicable with gas, light oil, heavy oil and dual fuel.



HO-Tron, GHO-Tron

- **Heavy oil range**
- Monoblock HO-Tron :from 68 to 17,000 kW
- **Dual fuel (gas/heavy oil) range**
- Monoblock GHO-Tron :from 410 to 17,000 kW

ETAMATIC OEM (Electronic fuel/air ratio unit)

- Functionality as ETAMATIC.
- Separate operating unit(customer interface)
- Electronic compound, up to 4 channels.
- Connects to PLC systems.
- 10-bits resolution.
- Integrated load control.
- CO/O2 control integrated.
- Can be installs directly on the burner.
- Simple to program.
- Can be operated from PC.
- Integrated leakage test.



ETAMATIC OEM

Combustion Supervision Systems

Compact Flame Scanner F200K

Purpose:

- The flame detector is mainly used in large-scale power plants, thermal power stations and chemical plants as well as for monitoring furnaces which are operated with:

- Oil
- Bio-mass Dust coal
- Gas
- Chemicals and other waste products

Features :

- Compact case with integrated flame sensor and switching amplifier.
- IR/UV flame detector.
- Digital circuit design for flame evaluation.
- Status indication by LEDs 24 V DC operating voltage.
- Two electronic channel system for fail safe operation and supervision.
- LED bar flame intensity indication and 4 (0) ... 20 mA analog output.
- LED bar trend indication selectable for an optimum adjustment to the flame direction.
- Intensity adjusts in multiple steps.



F200K

Compact Flame Scanner F300K

Purpose :

- This is a new compact flame monitor safety device which combines the Flame sensor and Switching amplifier for Oil , Gas , Biomass , coal process gas flame.

Features:

- Integrated flame Sensor and Switching Amplifier
- SIL 3 Certification.
- Self Learning Function.
- Menu guided operation with graphical display.
- IR/UV flame detector.
- Two operation levels.
- Digital Flame frequency evaluation in 7 selectable areas 10 to 210 Hz.
- 3 preselect able operation modes.
- Analogue output 4 (0) ... 20mA can be used freely for flame intensity.
- Connect to Pc, using CAN.BUS module.



F300K

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Flame sensors FFS05/ FFS06

- The flame scanners FFS05 and FFS06 are developed for the different, spectral bands of radiation as well as different types of fuel:

- Ex-I
- Ex-II
- UV-1
- UV-2
- UV-3

- The following applications/fuels are possible:

- Oil
- Gas
- Wood
- Special gases (monitoring of special gases i.e. refinery – and blast furnace gases (Ex) and/or against intensive back ground fire like hard coal fire produces)
- Dust coal firing
- Firing with a high volume of flue gas recirculation, waste gases with yellow color without UV-radiation



FFS05/FFS06

Flame monitoring device F152

- Plug-in module for DIN rail mounting Two-channel system with electronic self-monitoring.
- Digital flames frequency weighting in the range 10 to 200 Hz
- Status display via LEDs.
- Measuring output intensity for 0-20 Ma.
- UV and IR flame detector.
- SIL2 according to DIN EN 61508-2.



Combustion Optimization Systems

Lambda transmitter LT1 With Probe LS1

Purpose :

- The LT1 is a universal useable, microprocessor-based O₂ analyzer for direct measurement of O₂ concentration of gases in hyper stoichiometric ranges ($\lambda > 1$). In connection with the Lambda probe LS1 it can be used in:

- Combustion exhaust gases
- Industry exhaust gases
- Oven atmospheres
- Process gases
- For recording burnable gas components (CO/H₂), the Combination probe KS1D can be used additionally, with the following benefits:
 - Linear probe signal (D/C [Ma] with fixed physical zero-point. No special test gases needed, automatic balancing with ambient air (21 Vol. % O₂).
 - Preciseness of measurement better than 0, 2 Vol. % O₂ over the whole range of measuring 0...21 Vol. % O₂.
 - No gas conditioning needed
 - No reference gas needed
 - Setting time <20s on 90%-value (T₉₀) with gas extraction device (GED), 450 mm long.
 - No influence of measuring temperature on preciseness of measuring.
 - No temperature control of ZrO₂-measuring cell needed.
 - Automatic adaptation of cell temperature on cell internal resistance (Compensation of aging)
 - Measuring gas temperature up to 800 °C with metal extraction or up to 1400 °C with ceramic extraction.



- Means no ignition source inside flue gas channel – TUV approval existing.
 - Intermittent operated measuring gas pump with definition of optimal pump running time.
 - Easy to handle.
 - Low-maintenance.
- | | |
|--|---|
| <ul style="list-style-type: none"> • Features • Fully automatic calibration with ambient air • TUV approval for emission monitoring | <ul style="list-style-type: none"> • High-end O₂ measuring • Applicable up to 1400 °C • Easy to use and low-maintenance |
|--|---|

Lambda transmitter LT2 With Probe KS1D

Purpose :

- The LT2 Lambda transmitter is a universal, microprocessor based O₂ measuring instrument for the direct measurement of O₂ concentration in exhaust gases from oil and gas combustion facilities in the super stoichiometric domain ($\lambda > 1$), in conjunction with the LS2 Lambda probe.
- Optionally, the KS1D combination probe can be activated to record combustible gas components (CO/H₂) - see separate publication.
- It is possible to set up direct coupling with the compound/firing management system and ETAMATIC. This allows the implementation of an improved control procedure for optimizing oil and gas combustion facilities, and for automatic combustion system tuning to variable combustion conditions.
- In addition to O₂ measurement, the LT2 Lambda transmitter also offers the following functions:
 - Measurement of flue gas and air temperature intake, and calculation of combustion efficiency.
 - Detection of unburnt residue (CO/H₂), shown as CO equivalent (CO_e).
 - Calculation and display of CO₂ concentration.
 - Load-dependent and fuel-specific boundary curves / limit values.
 - O₂-regulation.
 - Combustion chamber pressure regulation.
 - Field bus connection.



Lambda transmitter LT3 With Probe KS1D

- The Lambda transmitter LT3 in connection with the combination probe KS1D is developed for simultaneous measurement of O₂ concentration and oxidizing gas elements (CO/H₂), displayed as CO equivalent (basically in exhaust gases of combustion plants within hyper stoichiometric ranges ($\lambda > 1$)).
- The display and handling of the LT3 is managed via user interface inside the front door (belongs to standard delivery), with the following functions:
 - Display of O₂ and CO measurement values
 - Password entry.
 - Information about probe and fuel, for warnings and failures, for software versions, CRC and serial number.
 - Calibration of measurement.
 - Setup (maintenance, filter time, analogue output, probe exchange, display).





Fault Indicators Systems

NEMS

- New value/first value message
- 16 alarm inputs open-circuit current/closed current
- Isolated inputs and power supply Line voltage 24V DC or 230V AC.
- Relay outputs for collective fault and Watchdog circuit.
- Fault / operation messages.
- Safety interlocks circuits for direct connected wiring.
- To connect to an alarm system with max. 1024 alarm inputs via LSB.
- Display- and operation terminal for visualization and history function via LSB.
- 2nd RS232 interface for connecting a radio clock.
- RS232 interface (optional) for connecting a PC with configuration software.



Stagnation pressure grid

- Volume measurement of gaseous media in ducts, especially for combustion air for firing applications
- With a minimum of differential pressure loss, compared to the conventional technology.
- Short length of inlet- and outlet-stretch for laminar flow. Long air-ducts are not required anymore.
- Stainless steel material.
- Basic temperature range up to 400 °C
- Free of maintenance for use in clean air application
- Rectangular and circular grid versions are available
- With increased dust particles loading, flushing back can be done (option).
- Connection to the Differential Pressure Transmitter by impulse piping or on customer's request.



Control drives

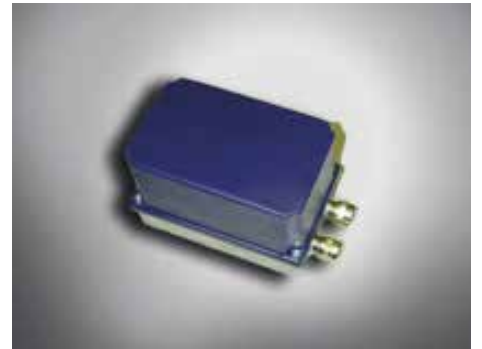
Control drive 6Nm, Type 662R2127

- Running time are 60 seconds up to 90°C (Other running times and aperture angle on request).
- Control voltage 230V/AC / 50 Hz, three-point-step (Other voltages and frequencies on request).
- One potentiometer NOVOTEC, 5kΩ (Other potentiometers und potentiometer values on request).
- Electrical manual operation ON/OFF via pushbutton
- Protection category IP54



Control drive 20Nm, Type 662R21 1 1

- Running time 60 seconds on 90°
- Control voltage 230V/AC / 50Hz, 3-state-step
- 2 Limit switches for limitation of operating displacements to 90° (factory-installed).
- 1 additional switch for free setting
- 1 Potentiometer NOVOTEC, 5kR as re-circulation
- Protection type IP54



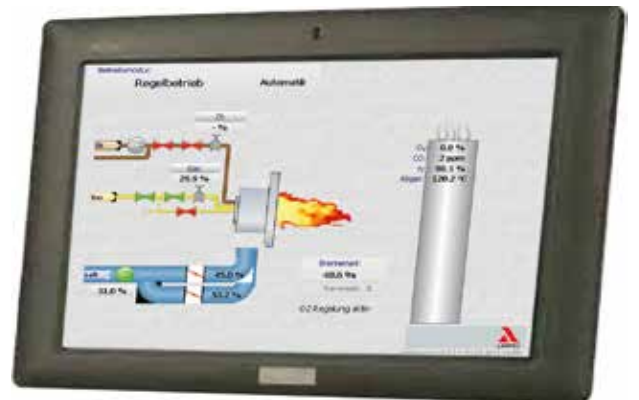
Gas butterfly control valve

- Gas butterfly control valve not linear
- Ring butterfly control valve not linear
- For all LAMTEC control drives
- Form-fitted, available on demand
- Gas family 1, 2 and 3

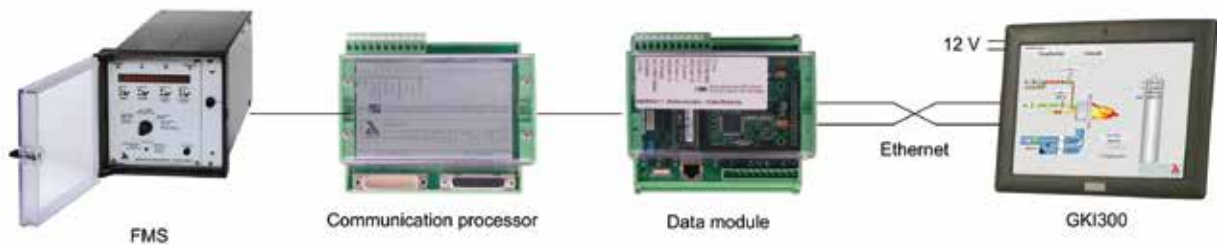


Graphical Customer Interface GKI

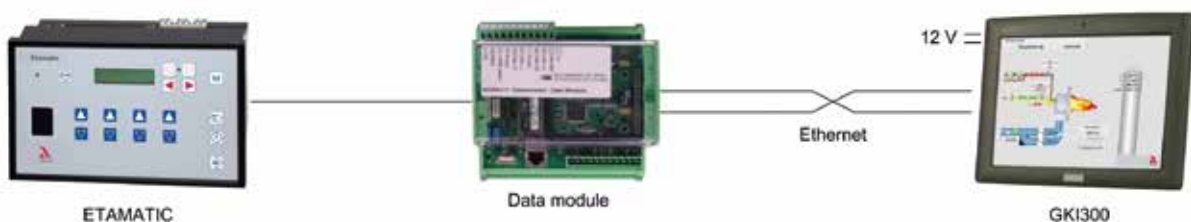
- Touch-Screen 8,4" 800 x 600
- Visualisation of values from burner and flue gas measurement
- Grafical display of fuel/air ratio control, O2 and CO curves
- Alternative solution to customer interface with ETAMATIC OEM
- Plug & Play - no configuration required
- Manual firing-rate
- Modification of firing-rate controller setpoint
- Fault history



How to connect to FMS



How to connect to Etamatic:





Company Profile

Today we manufacture more than 2,500 different types of solenoid valves and pneumatic valves in our four production halls – with 70 staff members and modern technical equipment. Highly specialized in burners, furnaces, boilers and power plants.

We supply standard solutions, system solutions and special solutions, which – depending in the model – may control gas, oil or water and even media like molasses, grease or milk of lime.

Application

Uni-Geräte valves and devices have been used on four continents in various types of plants. Depending on the profile of the operator, they are used in energy generation from natural gas, oil & water, but also for the control of other mediums. Instead of simply boasting with a list of well-known customers or reference objects, we would simply like to show an example or two for each specific sector.

Products:

Solenoid valves

EVA /EVSA-Series

Application : Natural gas/bio gas

Functions : Valves of the EVA/EVSA series are single-stage, directly controlled electro solenoid valves with type test certificates as per EN 161 and, respectively DIN 3394 T1.

They are used as automatic shut-off valves for gas burners and gas appliances.

Size & Operation pressure

For permitted operation pressures from 0 – 4 bar, with nominal widths between ¼" to 2" and DN 15 to DN 150.

For permitted operation pressures from 0 – 10 bar available with nominal widths between DN 15 to DN 150.

EVA /EVSA-Series with thread

EV/EVF-Series

Application : vapour/steam & Oil Combustion.

Functions : the EV and EVF series are single-stage, directly controlled electro solenoid valves with thermo-decoupled drives. EVF- valves with bellow-type sealing can therefore be used for temperatures of up to 200°C of the medium. The EV series with its elastomeric-spindle sealing is suitable for temperatures of up to 140°C. A type test certificate according to EN 264 is available for both series.

Size & Operation pressure

The pressure ranges of 0 – 5 bar, 0 – 10 bar, 0 – 25 bar and 0 – 40 bar nominal widths of DN 15, DN 20 and DN 25 are available.



EVA-Series



EVSA-Series



EVA-Series



EVSA-Series



EV/EVF-Series
with thread



EV/EVF-Series

Electro-Pneumatic Valves:

EPVA / EPVO – Series

Application : Natural gas / bio gas

Functions: The EPVA /EPVO-series include directly controlled valves with pneumatic piston drive. Type test certificates according to EN 161 and, respectively, according to DIN 3394T1 are available. The series is available with nominal widths of DN 15 to DN 400. There are valves available for operation pressures of up to 40 bar.

These valves are used as automatic Safety shut-off valves for example in gas turbines and for general fuel engineering.

Size & Operation pressure

The series is available with nominal widths of DN 15 to DN 400. There are valves available for operation pressures of up to 40 bar.



EPVO-Series



EPVA-Series

EPV and EPVF – Series

Application : vapor/steam & Oil Combustion.

Functions: The EPV and EPVF series are single-stage, directly controlled pneumatic valves with thermo-decoupled drives. EPVF- valves with bellow-type sealing can therefore be used for temperatures of up to 200°C of the medium.



Volume-regulating-butterfly-valve

The Butterfly Valves are available in nominal widths of DN15 to DN400 with electrical or pneumatic drives for the regulation of combustion air, fuel gas and flue gas. Applicable for temperatures as desired up to +60°C, up to +200°C, up to +550°C, up to +700°C.



Fitting station:

Uni-Geräte Co. can offer complete stations and skids for any required application.



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Founded in 1961 by Gian Renzo and Pier Francesco Brandoni, the company Fratelli Brandoni produces components for the electromechanical industry supplying companies such as Pirelli, 3 M and CEAT.

Mission:

- Enhance the quality of client relations and loyalty-building.
- Improve quality of service and increase market penetration at the international level.

SHUT-OFF VALVES

- Shut-off valves are largely installed in process environments, and in the sectioning of the plant for easy maintenance.

There are different types of shut-off valve such as:

- Ball valves.
- Butterfly valves.
- Soft seated gate valves.
- Knife gate valves.



Check Valves

- Check valves (or non-return valves) allow the liquid to flow in only one direction, and consequently prevent back flow.
- Furthermore, they ensure that the circuit does not empty if the pump stops. They may be installed in line, or as foot valves.

- There are different types of check valves such as:

- 1- Spring check valve.
- 2 - Dual -plate wafer check valve.
- 3 - Disc wafer spring check valve.
- 4 - Check valve with spring.
- 5 - Swing wafer check valve.
- 6- Ball check valve.
- 7- Flanged swing check valve.
- 8- Venturi check valve.



Protection Valves:

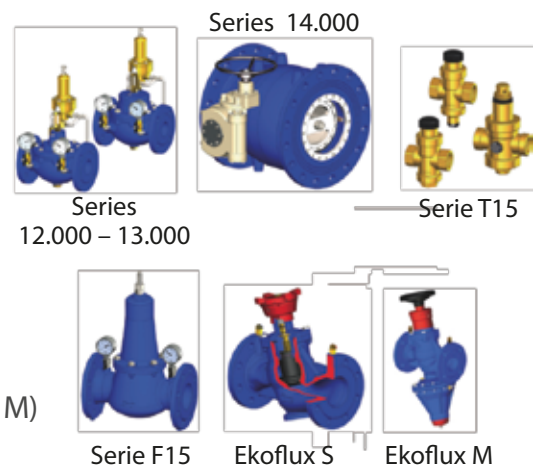
Backflow preventers are indispensable to prevent contamination of the distribution network of the drinking water from entering from connected user units (for example, washing machines, boilers, industrial plants, hospitals, laboratories, fire fighting plants).

- Flanged back flow preventer with controllable reduced pressure zone.
- Threaded end back flow preventer with controllable reduced pressure zone.



Regulation Valves:

- The regulation valves regulate the parameters of pressure and flow.
- These valves allow optimizing the circuits in term of safety, service, efficiency and energy saving by balancing, reducing, sustaining or relieving the pressure and flow rate.
- **There are different types of Regulation Valves such as:**
 - 1- Flanged balancing valve (Series Ekoflux S).
 - 2- Modulating differential pressure control valve.(Series Ekoflux M)
 - 3- Diaphragm or piston control valve (Series 12.000 – 13.000).
 - 4- Needle valve (Series 14000).
 - 5- Direct acting, pressure reducing valve (Series T15).
 - 6- Flanged direct acting, pressure reducing valves (Series F15).



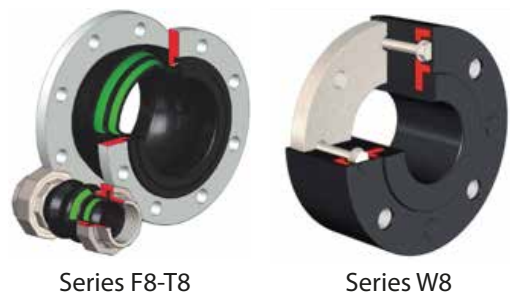
Filtration Valves:

- The installation of filters is essential to protect pumps, valves, back flow preventers and pressure reducing valves from dirt (rust, welding residues) and solids in the plant.
- They can be installed in line, or in aspiration (for example, in association with a foot valve).
- There are different types of Regulation Valves such as:
 - Filters (series 10.000, 11.000).
 - Strainer baskets (series 50).



Joints:

- Elastic joints protect circuits from movements and extension, compression misalignments and bending.
- The joints absorb vibrations, noise and reduce the cause's water hammers.
- There are different types of joints such as:
 - Rubber joints (series F8-T8).
 - Vibration-damping joints (series W8).



Solenoid valves:

- Solenoid valves are electro-mechanical shut-Off valves used in the automatic control of fluids.
- They are available for indirect, auctioning (servo-commands).in either normally closed version or normally Open version and in combined auctioning in aversion normally closed.
- The different seal allows compatibility with a wide range of fluids.
- The characteristics of the coils (voltage, frequency) cover the main types of electrical supply used for auctioning solenoid valves.



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DUNGS is market leader: We master the complete range of technologies for controlling, metering and modulating of combustible gas and combustion air. We offer the complete range of hardware: From single valves over complete gas trains to safety technology, from automatic burner controls to burner management systems. You can find our products in residential homes, in public buildings, in the industry and in gas engines used in cogeneration units.

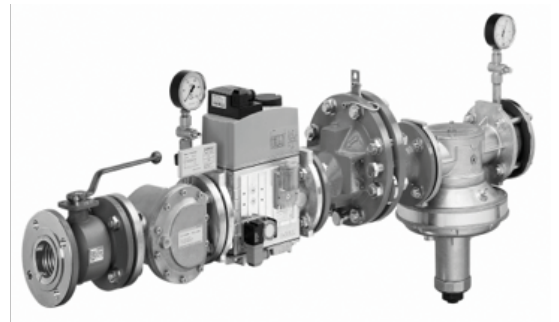
Products Range



Gas Pressure Regulators



Gas Pressure Switches



Gas Trains



Solenoid valves / butterfly valves



Actuator Drives



Manometers

Service & Support:

- EFTA EGYPT is able to carry out commissioning, service and installation of all types of burners, boilers.
- We recognize that it is important to install commission and maintain combustion equipment correctly in order to get the best performance from it and maintain its safe operation at all times.
- We gain our experience and skills from our head office in Germany which established in 1990 in Ludwigshafen in combustion engineering field, automation Systems.
- If you are looking to replace or achieve optimum performance from an existing combustion system we can advise on the most cost effective method to enhance output, reduce emissions and minimize fuel consumption.
- We offer tailor-made service contracts to ensure that your equipment will produce the highest yield and best quality possible at all times.
- When it comes to installation we take our responsibility and your reputation very seriously.
- EFTA Egypt staff is aware of the international codes and standards, Industrial Safety, with high technical and personal skills.

Headquarter

EFTA Elektrotechnik GmbH

Drosselweg 6

67063 Ludwigshafen

Germany

Tel. : +49 (0)621/ 63 71 730

Fax : +49 (0)621/ 63 71 732

Email : efta-engineering@t-online.de

Website: www.efta-germany.de

EFTA Egypt

5 Ali El-Gendy St., 1st floor,

from Ahmed Fakhry St., Nasr city,

Cairo, Egypt

Tel. : +2 02 22 75 81 32

Fax : +2 02 22 75 80 67

Mobile : +2 010000 290 10, 20, 30, 40, 50

Email : info@efta-egypt.com