

**We make Combustion Systems  
safe, reliable and efficient**

**Specialist for Control,  
Monitoring and Optimisation  
of Combustion Systems**



Sensors and systems for combustion engineering

[www.lamtec.de](http://www.lamtec.de)

# We work with our customers to create innovative solutions for combustion applications

**We can supply you with everything you need for future-oriented combustion technology.**

LAMTEC manufactures sensors and systems for combustion technology.

Our knowledge is based on decades of industry experience and in-depth market knowledge.

We stand for innovation, technology and the highest levels of product quality. Global coverage enables rapid delivery times, seamless processes and first class service for our customers.

We work with our customers on a daily basis to provide solutions to complex applications and logistical challenges.

**Customer satisfaction and the highest product quality are our main objectives!**

## Our Portfolio

- Burner control units
- Electronic fuel/air ratio control systems
- Flame monitoring systems
- O<sub>2</sub> measuring and control units
- Adaptive CO control
- Sensors for detecting unburnt gaseous components (CO/H<sub>2</sub>) and NO<sub>x</sub>
- Volumetric flow measurement devices
- Ignition systems



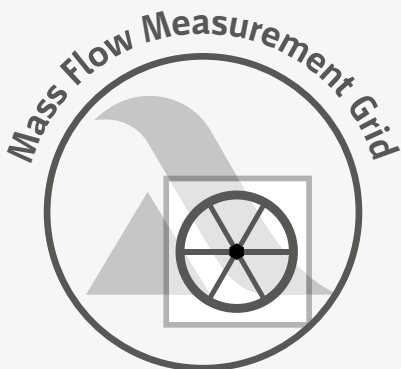
# Our Products

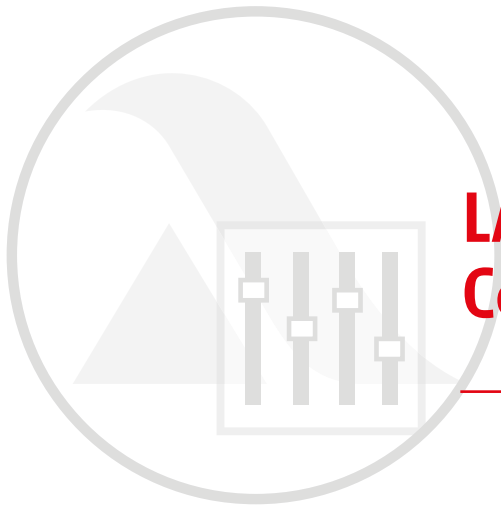
**LAMTEC is market leader in the manufacturing of analytical measuring equipment in the field of combustion engineering. We offer efficient technology with maximum functionality.**

- Failsafe functioning and flexible availability
- Universally applicable
- Conforms to all relevant sector-specific standards and approvals
- Reliable and certified
- Increase efficiency and energy savings
- Reduce fuel consumption and environmentally harmful CO<sub>2</sub> emissions
- Compensate for disturbances

## Why you should choose us

- Medium flexibility and agility
- Worldwide availability
- Well-established by name, almost all international burner manufacturers use LAMTEC units
- On-site service and hotline
- Together we solve your challenges
- Continuous innovation and advanced technology
- We reinvest a large part of our proceeds
- Exchange ideas directly with our service technicians





# LAMTEC Combustion Management

## LAMTEC Combustion Management makes combustion simpler than ever before.

Optimised configuration and control are key requirements if burners are to be as environmentally-friendly and energy-efficient as possible, saving fuel and cutting costs.

LAMTEC develops devices that guarantee exact combustion control!

What this means for you:

- As little energy input as possible
- Lowest possible pollutant emissions
- Maximum efficiency

LAMTEC burner control units undergo continuous development to optimise and monitor oil, gas and solid fuel burners.

They compensate combustion variables with high availability and failsafe functionality

## Systems from basic to high end:

- Burner control and/or ratio control with up to 10 channels
- For control panel installation or mounting on the burner
- CO/H<sub>2</sub> control
- O<sub>2</sub> trim
- Valve leakage test
- Flame monitoring system
- PID load controller for burner firing rate
- Mixed firing of multiple fuels in fixed or variable ratio
- Highest flexibility without / with Soft-SPS
- Graphic HMI
- Interfacing to third-party systems using standard Fieldbus protocols
- International approvals

## Overview of our systems:



CMS



BT300



BC300



CMS in operation

## Highlights

- Environmental protection thanks to reduced emissions
- Type approved
- SIL3
- Customised solutions
- Improved efficiency combined with minimised costs
- Energy savings on electricity and fuel
- Easy operation
- Short commissioning times



ETAMATIC



ETAMATIC OEM



FMS



## LAMTEC Sensors and Measuring Systems

### Accurate and reliable exhaust gas measurement for all fuels and applications

LAMTEC sensors and measuring systems ensure the correct measurement for optimum combustion. Our measuring systems can be used for measuring exhaust gas from virtually all fuels:

- Natural gas, heating oil (extra-light), heating oil (heavy), hydrogen
- Particle-laden fuel exhaust gases, biomass
- Coke oven gases, furnace gases
- Coal and special fuels

### Systems from basic to high end:

- Range of measuring for O<sub>2</sub>: 0 - 21 %
- Measurement directly in wet flue gas up to 1400 °C in-situ
- Rapid reaction and setting times

- Rapid response time
- Permanent measured value recording of oxygen (O<sub>2</sub>) and oxidisable flue gas components (CO/H<sub>2</sub>) and NO<sub>x</sub>
- In-situ measurement of wet flue gas - extraction sampling not required
- No gas preparation
- Short or no recovery time with CO/H<sub>2</sub>
- Suitable for fuel exhaust gases containing dust
- Automatic/semi-automatic calibration
- Degree of protection up to IP65
- Various designs for hazardous areas

### In addition the following applies to CO<sub>e</sub> and NO<sub>x</sub> measurement system

- Clear and reliable detection of non-burned residue (CO/H<sub>2</sub>) or NO<sub>x</sub>
- Not affected by ingress/tramp air
- CO<sub>e</sub> measuring range: 0 to 10,000 ppm
- NO<sub>x</sub> measuring range: 0 to 3,100 ppm

### Overview of our systems:



LT1 with LS1



LT2 with KS1D-HT and GED FLEX + T-Adapter



LT3 with KS1D ECO



LT3

## Highlights

- Environmental protection thanks to reduced emissions
- Improved efficiency combined with minimised costs
- Energy savings on electricity and fuel
- Easy operation
- Short commissioning times
- Low-maintenance
- Robust
- Customised solutions
- Up to SIL 3 soon available



LT3-Ex with KS1D-Ex



NO<sub>x</sub>



## LAMTEC Flame Monitoring System

### With us the flame is always in sight - flame monitoring systems for safe combustion

We offer a modular product range covering all aspects of flame monitoring systems for reliable monitoring with a high degree of selectivity and availability for the following fuels:

- Natural gas, extra light heating oil, heavy heating oil
- Lignite, hard coal
- Biomass, biogas
- Special gases, special fuels

### Systems from basic to high end:

- Combustion systems with and without flame and background radiation discrimination
- Single and multi-burner systems
- Combustion space monitoring
- Standard and compact models with integrated amplifiers and flame relays
- Up to three selectable operating modes/channels
- UV & IR sensors (including dual sensor options)
- Digital flame frequency evaluation
- Flame self-learning function ON/OFF
- Remote software with diagnostics function
- Option for networking multiple flame monitoring systems
- Degree of protection up to IP67
- EX-Zone I and II
- Various designs for hazardous areas
- Comprehensive range of accessories
- Advanced flame rating

### Overview of our systems:



F300K / FO



F200K / FO



FFS07 / FFS08

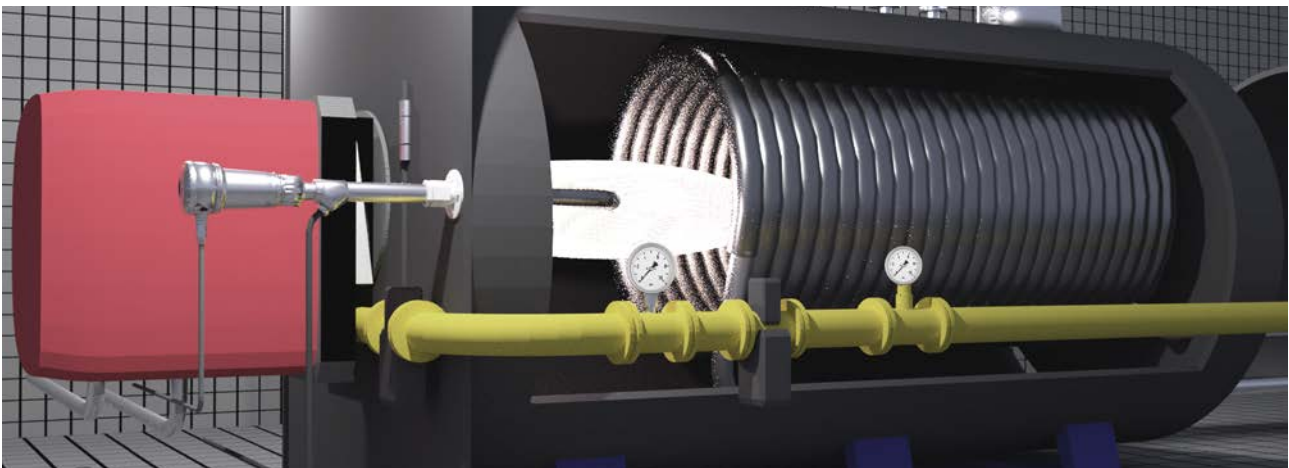


FFS30 UV / IR





The LAMTEC F300K flame monitoring system in operation



Fibre Optics with Boiler

## Highlights

- Simple operation and adjustment
- Very low maintenance requirements
- No wearing parts (without shutter)
- Flame rating
- Type approved and SIL 3
- Continuous operation
- Safe area, Ex-Zone I and Ex-Zone- II
- Fibre optics for extremely high temperatures



F350



F152



F130I



# LAMTEC Mass Flow Measurement Grid

## Measuring the volumetric flow of gaseous media with us.

The principle of the mass flow measurement grid follows the Bernoulli energy equation on which the principle of the conservation of energy is based. The entire kinetic flow energy (without friction losses) remains constant as the sum of the dynamic and static pressure.

## Systems from standard to bespoke

- Volumetric flow measurement of gaseous media in channels (e.g. supply air for combustion systems)
- Rectangular and round versions
- Different sizes, lengths and flange connections
- Made of stainless steel
- Calculation data for pressure transmitter included
- Optional flushing devices available for particle-laden media
- High repetition accuracy

## Highlights

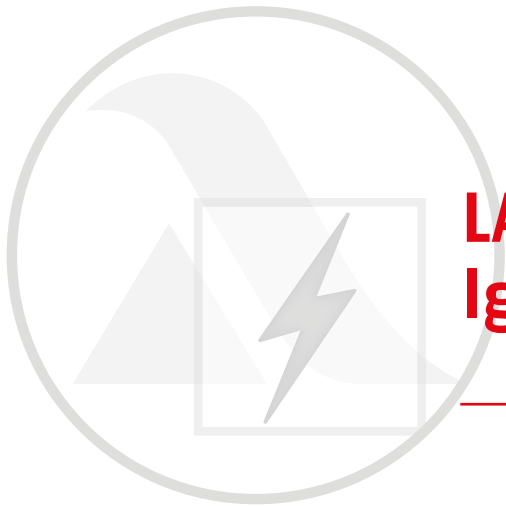
- Reduced upstream and downstream location requirements compared to single point systems
- Low pressure losses
- Low-maintenance
- Flexible thanks to customised production
- Customised solutions

Round mass flow measurement grid



Rectangular mass flow measurement grid





# LAMTEC Ignition systems

**With our ignition and pilot burners make the ignition of your combustion system a reliable event.** LAMTEC ignition and pilot burners are designed for the reliable ignition of main burners in combustion systems of all kinds.

## LAMTEC pilot burner GFI

- Fuels: natural gas LPG, coke gas, refinery gas
- Thermal rating up to 3 MW in special version up to 6 MW
- Flame length up to 3 m
- Intermittent or continuous operation
- SIL 3 certified
- Degree of protection up to IP65
- Available for hazardous areas

## LAMTEC High Energy Igniters HEI

- Ignite liquid and gaseous fuels in burners of any capacity
- Compact design
- 100 % waterproof
- Suitable for hazardous environments
- Degree of protection IP65 / IP66
- Can be used at high temperatures of over 1000 °C
- Available as BASIC HEI500 and High-End HEI600

## Highlights

- Simple operation and adjustment
- Low maintenance requirements
- Available with optional display at GFI
- Available for EX-Zone
- Customised solutions
- SIL 3

## Overview of our systems:



GFI Variant



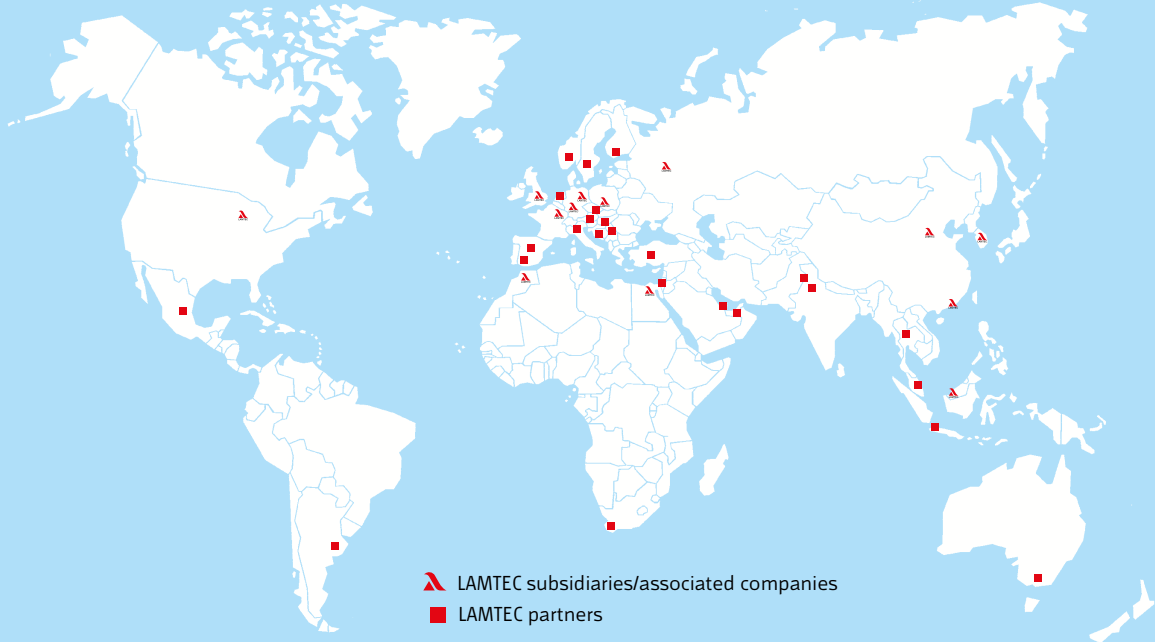
GFI Variant without power unit



LAMTEC High Energy Igniters HEI

We make Combustion Systems safe, reliable and efficient.

# We have a global presence and are always on hand for speedy and specific advice



## Approvals for individual devices:



CE 0036



DVGW 0085



UL US



SIL



Class I, Division 2,  
Group A, B, C, D

### Your personal contact partner.

Using our hotline, you can quickly and easily reach a personal contact partner who has the necessary expertise for you. In addition our sales partners and service engineers are at your disposal worldwide.

### How to contact us:

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