

# beup

**AUTOMATION**

Founded in 1984  
Herttoniemi, Helsinki

# *Process efficiency and safety in hazardous environments*



Beup Automation Oy

- Expertise in process instrumentation
- Consultation in system specification according to customer needs
- Full range of maintenance and commissioning services



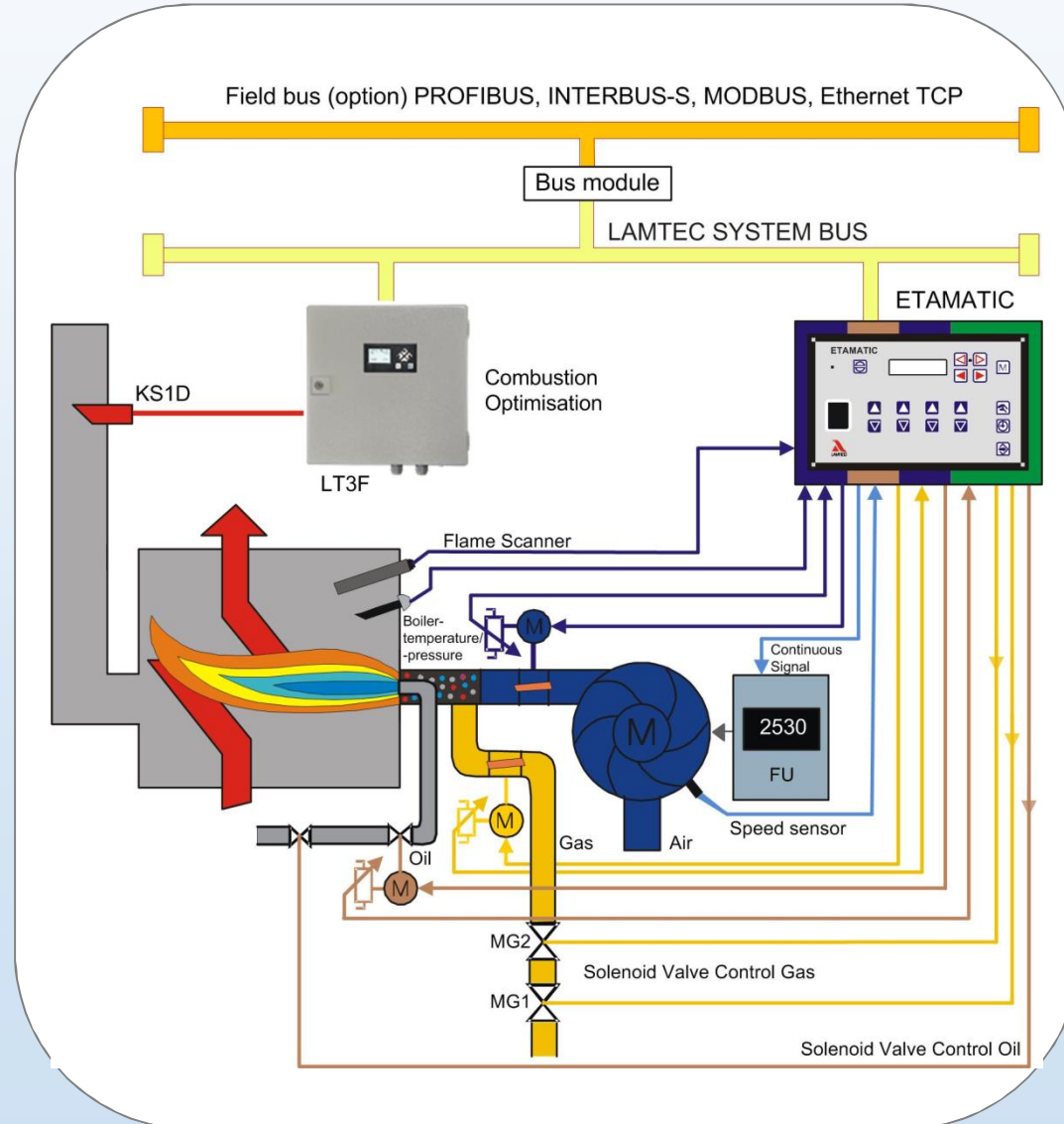


# One-stop-shop in combustion management



## Sensor technology

- Oxygen ( $O_2$ )
- Combustibles ( $CO/H_2$ )
- IR and UV flame detection
- Mass flow grid



## Electronics

- Electronic burner management systems
- Fuel/air ratio control
- Variable speed control
- Flame detection
- $CO/O_2$  Control
- $O_2$  Measurement
- $CO/H_2$  Monitoring
- Process and fault indicator system
- Boiler control with burner/boiler visualization



# Lamtec in combustion management



Combustion  
management  
(SIL3)

FMS



ETAMATIC



BurnerTronic



Combustion  
monitoring  
(SIL3)

F152/FFS 07/08



F200K



F300K



Combustion  
optimisation

O<sub>2</sub> Trim



CO/O<sub>2</sub> Control



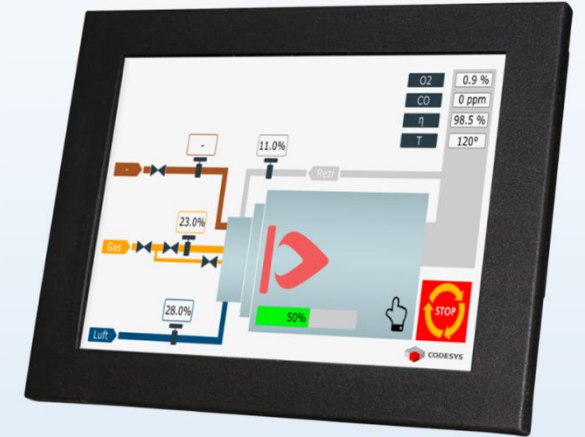
CO/H<sub>2</sub> Detection



# New CMS the future of Burner Control



- ü Modular system
- ü Very flexible From low cost to high end
- ü Centralised or distributed architecture possible
- ü HMI for front panel mounting
- ü Up to 10 actuator/channel outputs
- ü Integrated soft PLC (CODESYS)
- ü Possible actuators:
  - ü Servo drives
  - ü Stepper Motors BT300
  - ü VSD
  - ü Pneumatic actuators 4 ... 20 mA
  - ü Bus Motors
- ü 24 VDC power supply
- ü Inputs/Outputs 24 VDC or 115 / 230 VAC
- ü Approvals: CE, UL (CSA), SIL3, AGA, ships





# Flame detection systems (SIL3) safe & reliable



**F200K/F200K Ex  
SIL3**



**F300K SIL3**



**F152/FFS 07/08  
SIL3**



**F130i SIL3**



- Infrared (IR), Ultraviolet (UV), Ionisation (IO)
- Flame detection for all types of single and multiple burner applications
- Digital flame interpretation (IR and UV)
- Variable adjustment for all fuels (IR and UV)
- High safety
- High reliability
- Best selectivity
- Approved for continuous operation without burner capacity restriction
- Ex-type (F200K and F300K)

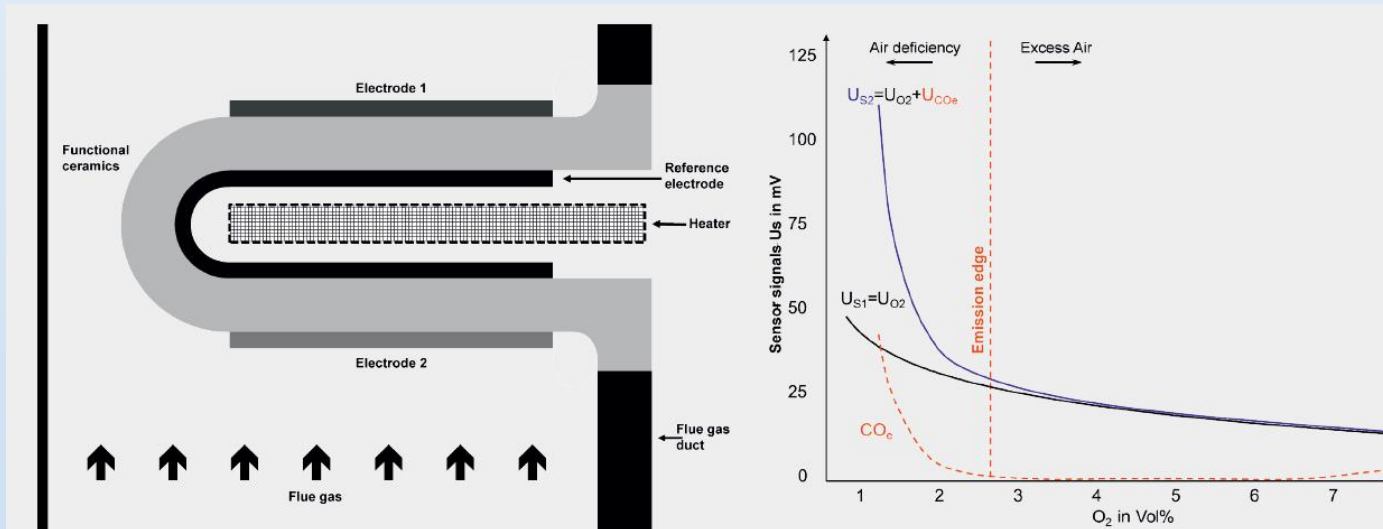


# *O<sub>2</sub> and CO measuring systems for combustion monitoring and optimization*



## Advantages of direct LAMTEC measuring technology in flue gases:

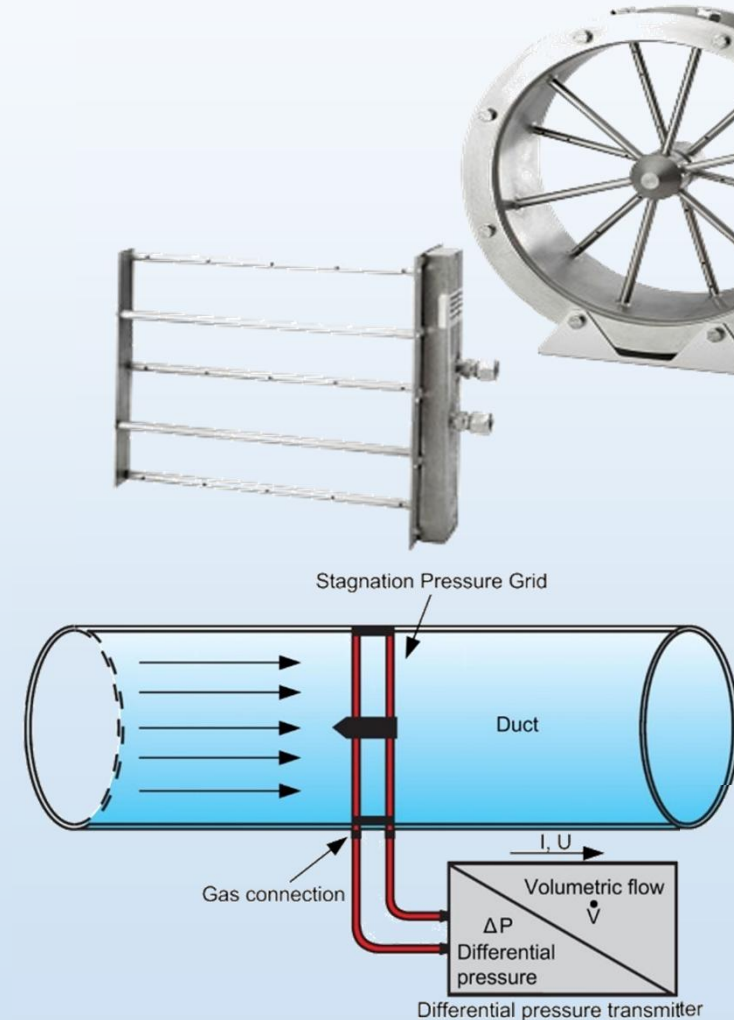
- ü fast reaction and response time
- ü continuous measured value acquisition also with CO/H<sub>2</sub>
- ü in-situ measurement - no need for sample extraction or conditioning
- ü Short or no recovery time at CO/H<sub>2</sub>(CO<sub>e</sub>)
- ü low maintenance





# Mass Flow Measurement Grid

- ü Volume measurement of gases in ducts
- ü Volume measurement of waste gases under use of optional materials possible
- ü Minimum differential pressure loss, compared to the conventional technology
- ü Short length of inlet and outlet stretch for laminar flow. Long air ducts are not required anymore
- ü Stainless steel material
- ü Basic temperature up to 400° C
- ü Rectangular and circular grid versions available
- ü With increase dust particles loading, flushing back as an option
- ü Connection to the differential pressure technology by impulse piping or on customers` request



# Gas detection

**CROWCON**  
Detecting Gas Saving Lives

Fixed detectors,  
controllers and systems



Portable and personal  
monitors



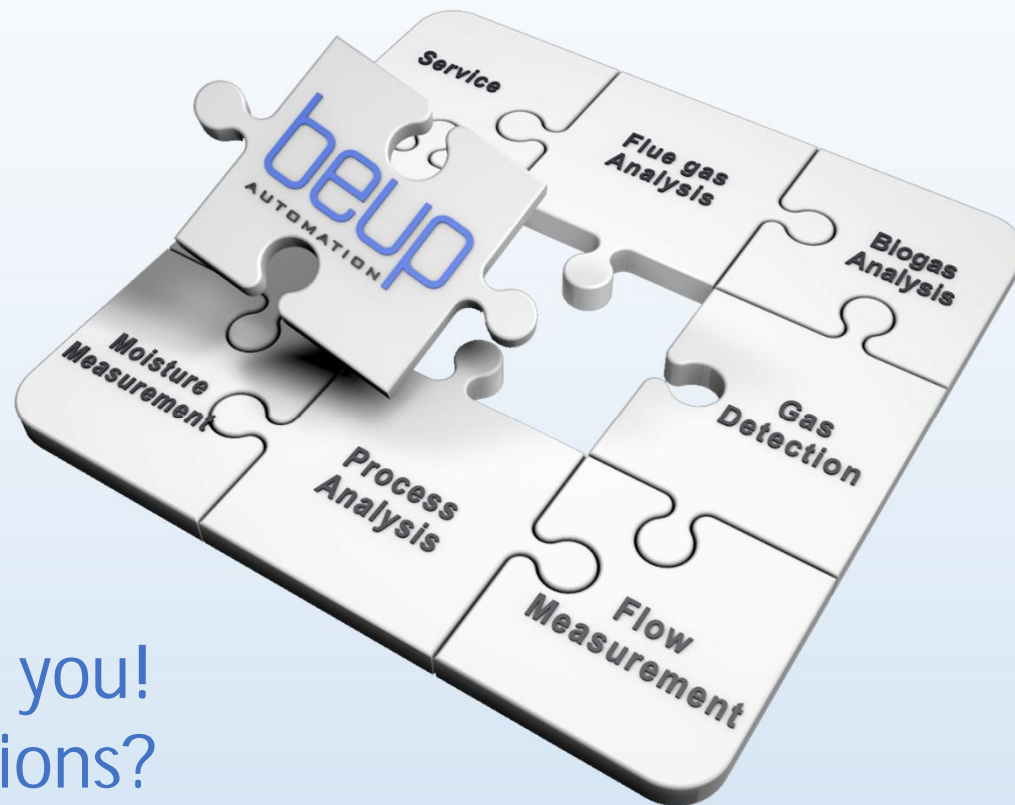


# Services

As a part of our turnkey project contracts, we offer startup, commissioning support, training, maintenance and service for

- ü Physical Property Analyzers and Gas chromatographs
- ü Calibration services for Gas detectors
- ü Startup services for MID approved equipment
- ü Energy measurements
- ü Service agreements

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AUTOMATION



Thank you!  
Questions?  
Please visit us at A15