GOK

Components • Solutions • Systems



Control technology

CATALOGUES

Exhaust gas extraction monitoring system
for **commercial kitchens**

Contents

Area of application 1

Function and purpose 2

Implementation ..... 3 – 4

Application 5

Volume flow rate 6

Commercial kitchens ..... 7 – 10

Technical data 11

Services & Support 12

Contact persons 13

All relevant information concerning the exhaust gas extraction monitoring system type EMS as well as its components is available here:

https://gok.de/en/Exhaust-gas-extraction-monitoring-system-type-EMS-in-commercial-kitchens/

On this page, you can access information such as:

- installation and operating manual
- tender texts for technical components
- tender texts for services
- technical specifications

GOK offers a variety of support and services surrounding the installation, maintenance and testing of the system. All details including prices are available here:

https://gok.de/en/Exhaust-gas-extraction-monitoring-system-type-EMS-AG35500

All descriptions and sizes provided are non-binding. We reserve the right to make design changes. The images of products as well as the drawings of applications and products are intended as examples only. We assume no liability for printing errors or mistakes!

VAT ID: DE 133017271 | WEEE Reg. No.: DE 78472800 | Batt Reg. no. DE 85959650

Areas of application

Exhaust gas extraction monitoring system type EMS

The intelligent system for maximum safety in commercial kitchens.

Reliable monitoring of the fresh air supply and exhaust gas extraction to protect personnel – standards-compliant and operational 24/7.

Suitable exhaust gas protection for every commercial kitchen



Restaurant kitchens

Safety during busy and continuous operations.



School and university canteens & commercial kitchens

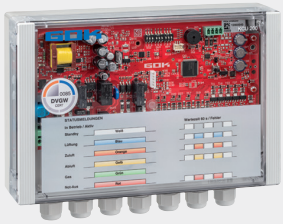
To ensure the quality of the breathing air for staff and customers.

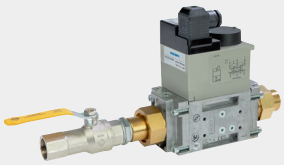


Hotel kitchens & company canteens

The appropriate system for all sizes of kitchen and canteen.

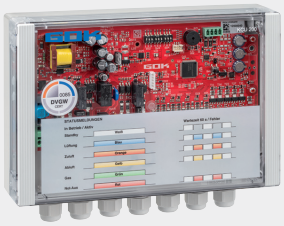
Components of the exhaust gas extraction monitoring system type EMS



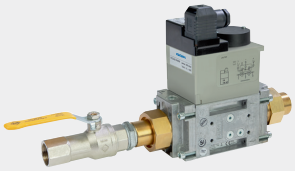




Exhaust gas extraction monitoring system type EMS – **page 7**



Kitchen control unit type KCU 200ADW **page 8**



Central shut-off device type FSA **page 9**



Under-glass emergency stop button type GNA – **page 10**



Pressure monitor **page 10**

Function & purpose

Safety, convenience and compliance with applicable standards in one unit



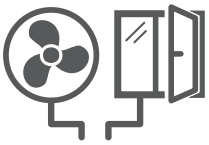
Automatic gas shut-off

Stops the gas supply in the case of insufficient fresh air supply or exhaust gas extraction in accordance with DVGW G 631 (A).



Monitoring of the exhaust gas extraction

Ventilation monitoring and monitoring of the air flow in the exhaust gas system according to DVGW G 631 (A).



Monitoring of the fresh air supply

Monitoring of the air flow in the fresh air duct or window position via a window contact switch or via a supply air pressure switch type VL.



Easy to operate

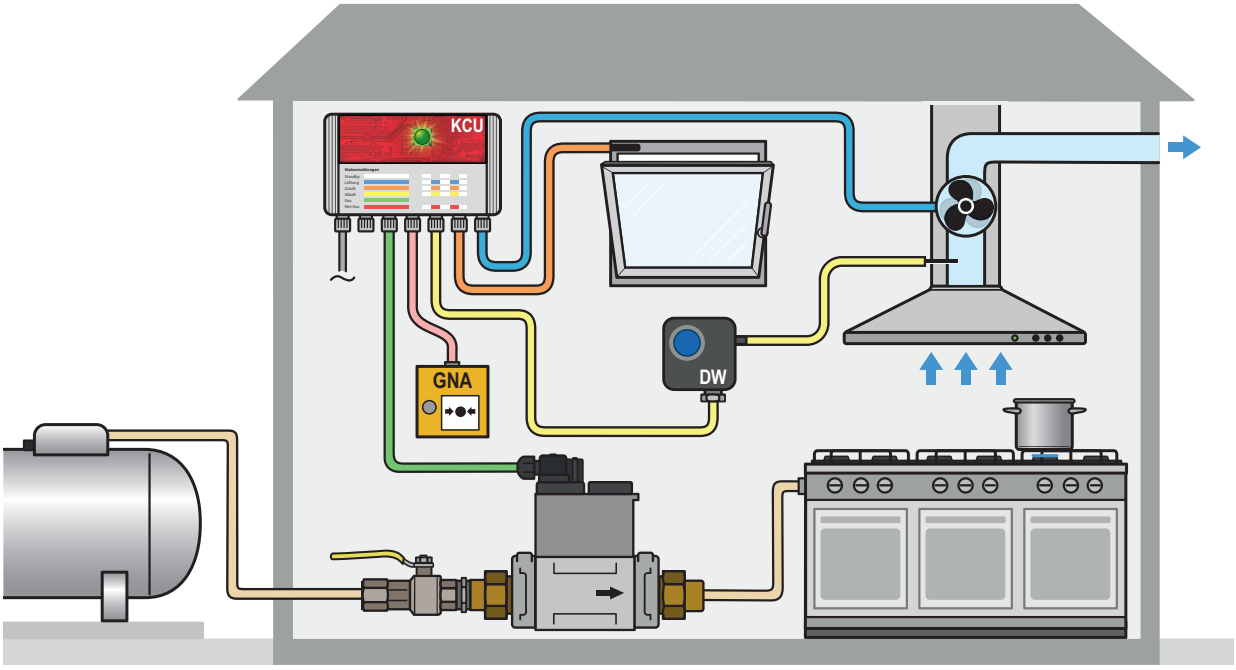
All operating states are indicated in a clear and understandable manner by a multicolour LED. An overview of the meaning of the LEDs is provided on the housing cover.



Certified safety

EC type tested and certified within the scope of application of the EU Gas Appliances Regulation (EU/2016/426) according to DIN EN 13611.

Exhaust gas extraction monitoring system type EMS – in accordance with DVGW worksheet G 631



Implementation

Implementation of DVGW worksheet G 631 (A) with exhaust gas extraction monitoring system (EMS)

Exhaust gas extraction monitoring system EMS for commercial gas equipment in catering and kitchens in accordance with DVGW worksheet G 631 (A) to ensure and monitor the safe extraction of exhaust gases from kitchen environments. EMS system consisting of a kitchen control unit KCU, a central gas shut-off device FSA and an air pressure monitor DW to automatically shut off the gas supply in the event of inadequate exhaust gas extraction.

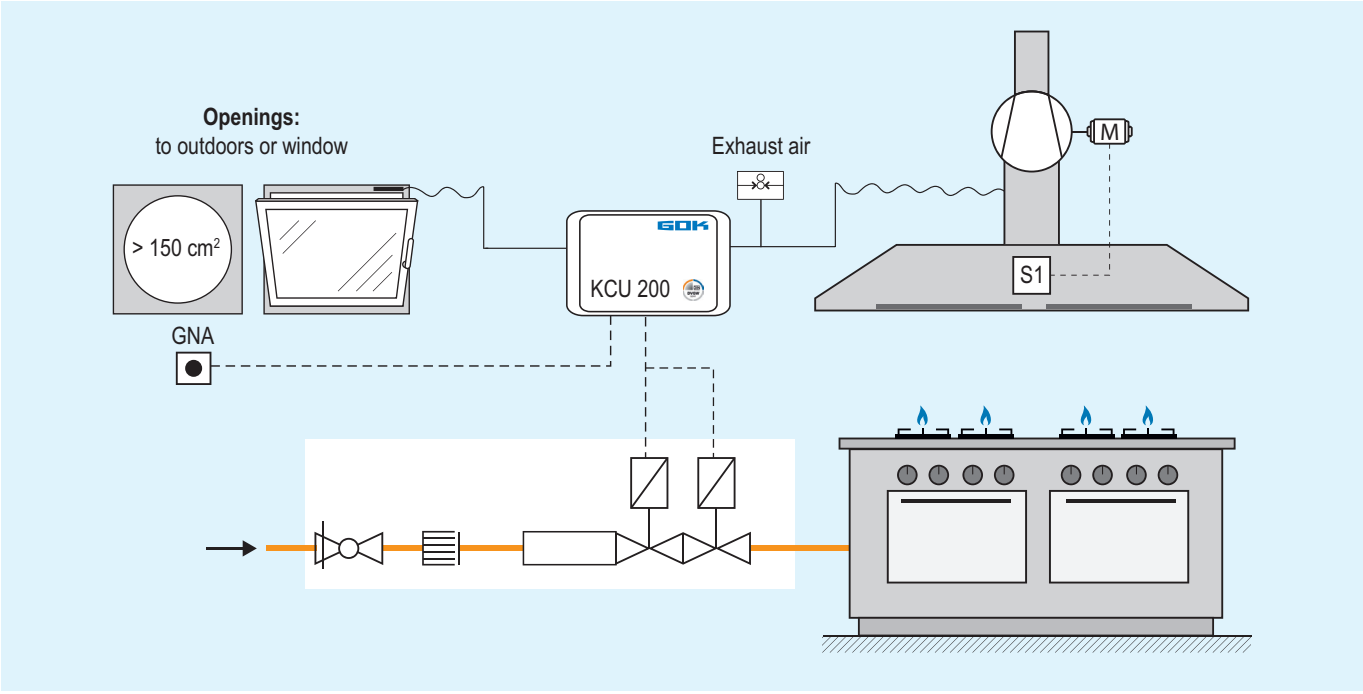
The microprocessor-controlled, fully automatic **kitchen control unit KCU** ensures the safe extraction of exhaust gases. In the 200 series, the KCU is equipped as standard with a multi-colour LED to display all the relevant operating and fault signals as well as with a 230 V~/50/60 Hz electrical connection with IP 54 type of protection.
Surface-mounting plastic housing in light grey (RAL 7035). KCU with optimum fail-safe performance according to DIN EN 13611. If required, a window contact or a supply air pressure monitor can be integrated into the release circuit via terminals 23/24/25.

Gas shut-off device FSA approved as a central shut-off device for all combustible gases in accordance with DVGW worksheet G 260, for a safeguarded inlet pressures up to pe < 500 mbar; consisting of a dual gas solenoid valve in accordance with DIN EN 161. Pre-assembled with brass screw fittings at the inlet and outlet as well as a gas ball valve with an integrated thermal shut-off device (TAE) for manual shut-off at the gas inlet.

Air pressure monitor with attached assembly bracket for mounting.
With a hose connection and handwheel for setting the switching points.

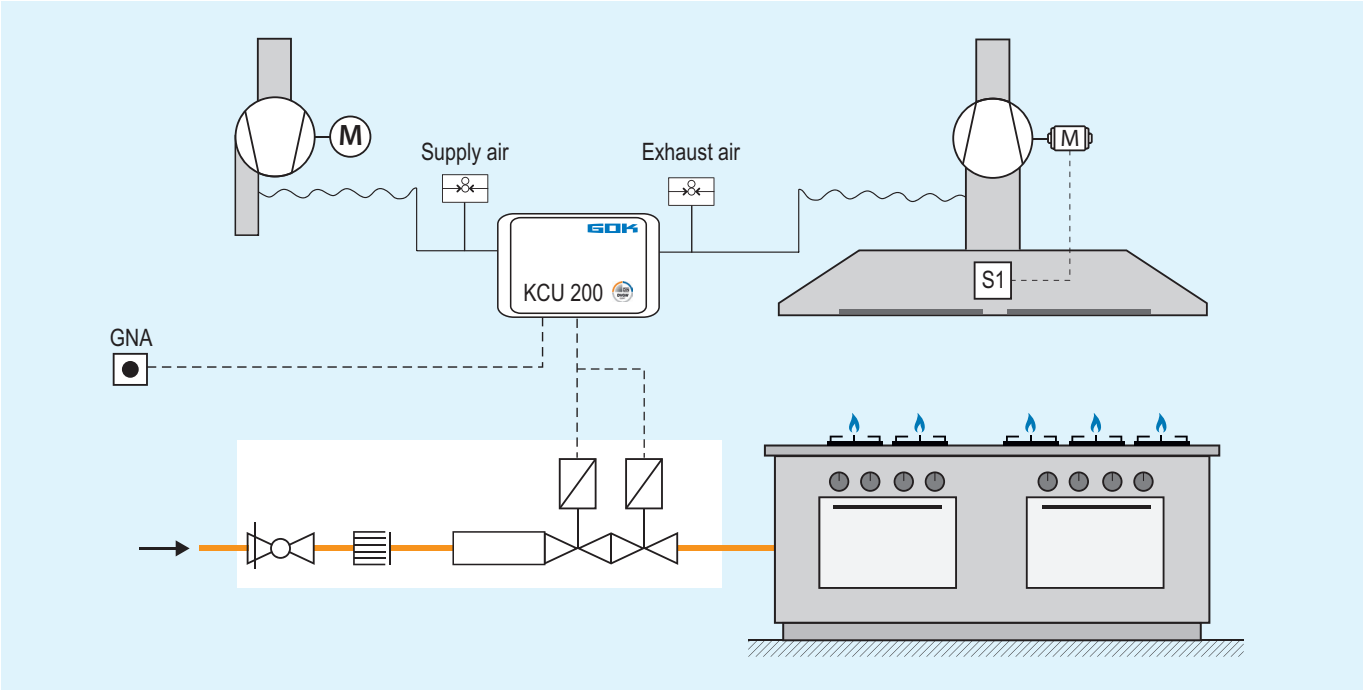
All fittings are EC type-tested and certified or DIN DVGW tested and registered.

Installation example: Gas equipment type A and/or type B > 14 kW to ≤ 50 kW



Implementation

Installation example: Gas equipment type A and/or type B > 50 kW



Function description of the EMS

Components and their characteristics to ensure exhaust gas extraction
- open the ball valve upstream of the gas shut-off device FSA

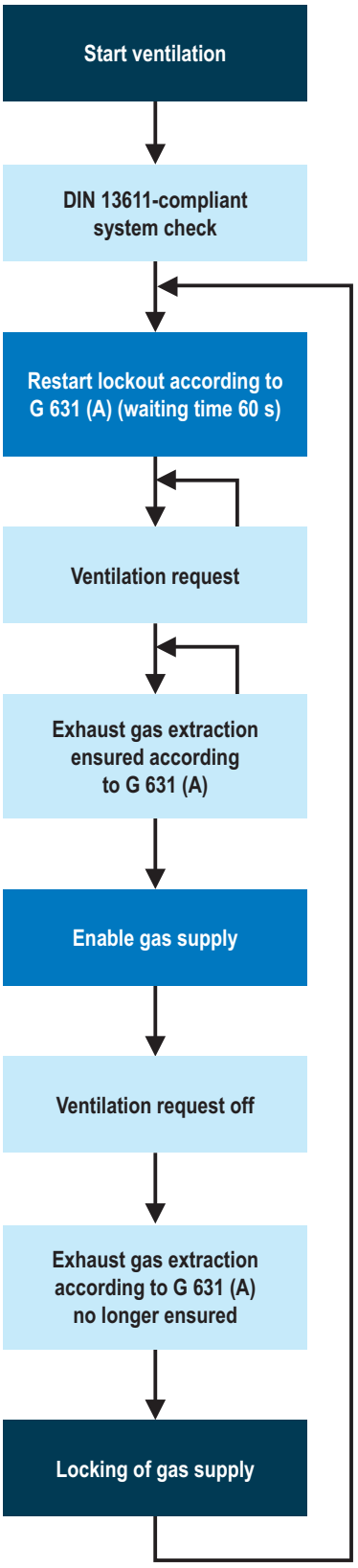
Kitchen control unit KCU
- switch on the power supply to the KCU
- emergency stop button must be unlocked
- KCU reports ready for operation (LED flashes white for 60 s and then stays illuminated white)
- switch on ventilation; request to KCU is generated (LED lights up blue)
- when sufficient exhaust air is discharged, the pressure monitor switches on (LED lights up yellow)
- gas solenoid valve is switched on, gas supply is enabled (LED lights up green)
- gas stove can now be used

Closing the system
- switch off the ventilation; this cancels the request and the solenoid valve closes (LED flashes white/blue and then stays illuminated white after 60 s)
- activating an emergency stop button or switching off the ventilation causes the gas solenoid valve to shut off automatically
- the gas solenoid valve can only be reopened by switching the ventilation back on after a 60-second restart lockout period
- switch off the power supply to the KCU

Kitchen control unit KCU function description

The kitchen control unit KCU is a key component of the EMS system. As part of the EMS system, it serves to automatically monitor and ensure the extraction of exhaust gas in commercial kitchens in accordance with DVGW worksheet G 631 (A). In the event of insufficient extraction, the gas supply is automatically shut off.

The KCU does not have its own main switch. This is intended to:
- allow for the use of a central main switch for the entire kitchen installation
- ensure flexibility in terms of placement (e.g. in a utilities room, control cabinet, etc.)
- facilitate cleaning and reduce the associated costs through flexible placement



Flow chart
automatic assurance of exhaust gas extraction according to G 631 (A) – kitchen control unit KCU

Volume flow rate

Selection examples for FSA 3XX

To calculate the total consumption, the total nominal load of the gas equipment must be taken into account!

Flow rate values for gas shut-off device FSA:
Chapter III of TRGI 2008 must be observed when sizing the piping system.

KW	Nominal size FSA	
(nominal load)	DN XX	RP
40*	DN 15	RP 1/2
55*	DN 20	RP 3/4
70*	DN 25	RP 1
190*	DN 40	RP 1 1/2
290*	DN 50	RP 2

* based on standard conditions and excluding pressure losses in the piping







Exhaust gas extraction monitoring system type EMS

Part no.

for the safe monitoring of fresh air supply and the exhaust gas extraction in order to control the gas supply in commercial kitchens and to protect personnel

consisting of: kitchen control unit, air pressure monitor and central shut-off device

DVGW worksheet G 631 (A): September 2024 redefined how the extraction of exhaust gases is to be ensured in restaurants and commercial kitchens. The exhaust gas extraction monitoring system type EMS contains all components for compliance with DVGW worksheet G 631 (A): September 2024.

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS**.

Advantages and equipment

- kitchen control unit type KCU 200 ADW as central control unit
- display of all relevant operating conditions and error messages via an LED; simple explanations of displays on the device for the user
- in the scope of delivery: air pressure monitor DW 500WZ to monitor the exhaust gas extraction (extractor hood)
- optional: supply air pressure monitor type VL 500WZ or window contact switch type FK300 for the monitoring of the fresh air supply
- central shut-off device type FSA; fully mounted unit on an assembly plate for simple wall mounting, consisting of:
  - 1 x ball valve
  - 1 x thermally triggering shut-off element to protect the consuming appliance from inadmissibly high temperatures; shuts off the flow automatically in the event of excessively high temperature
  - normally closed dual solenoid valve according to EN 161
  - various versions for different output loads
  - for all combustible gases according to DVGW worksheet G 260

Conformity

- EC type examination certificate GAR

Exhaust gas extraction monitoring system

	Part no.
type EMS 415R05	
Rp 1/2 F x Rp 1/2 F DN 15	92 100 01
type EMS 420R05	
Rp 3/4 F x Rp 3/4 F DN 20	92 100 02
type EMS 425R05	
Rp 1 F x Rp 1 F DN 25	92 100 03
type EMS 440R05	
Rp 1 1/2 F x Rp 1 1/2 F DN 40	92 100 04
type EMS 450R05	
Rp 2 F x Rp 2 F DN 50	92 100 05

Exhaust gas extraction monitoring system type EMS	Part no.
Accessories	
Gas shut-off device type FSA 315R05, both sides Rp 1/2 F DN 15	92 101 01
Gas shut-off device type FSA 320R05, both sides Rp 3/4 F DN 20	92 101 02
Gas shut-off device type FSA 325R05, both sides Rp 1 F DN 25	92 101 03
Gas shut-off device type FSA 340R05, both sides Rp 1 1/2 F DN 40	92 101 04
Gas shut-off device type FSA 350R05, both sides Rp 2 F DN 50	92 101 05
Kitchen control unit type KCU 200ADW	92 102 00
Exhaust air pressure monitor type DW 500WZ	92 102 01
Supply air pressure monitor type VL 500WZ	92 102 02
Window contact switch type FK300	92 102 03
Under-glass emergency stop button type GNA	92 001 00
The use of an emergency stop button of type GNA is recommended!	

CE



Kitchen control unit type KCU 200 ADW

Part no.

for the automatic shut-off of the gas supply in the event of inadequate exhaust gas extraction and the monitoring of the required combustion air supply in accordance with DVGW worksheet G 631 (A)

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS**.

Advantages and equipment

- ready for continuous operation as standard (>24 h) as part of a centralised ventilation system and for the processing of signals from a window contact switch if combustion air is supplied via openings to the outside
- microprocessor-controlled kitchen control unit type KCU 200 ADW for the operation of a solenoid valve
- multicolour RGB LED for all necessary indications of the operating status
- simple assembly and configuration using DIP switches
- display of relevant error messages to ensure easy and convenient user operation

Conformity

- CE marking according to EMC, LVD and RoHS
- EC type examination certificate GAR

Technical data

- supply voltage: 230 V AC 50 to 60 Hz
- protection type: IP54

Kitchen control unit type KCU 200 ADW

complete 92 102 00



Window contact switch type FK300

Part no.

suitable for the exhaust gas extraction monitoring system type EMS

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS**.

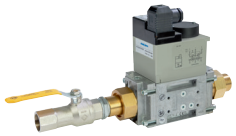
Advantages and equipment
- universal usable changeover contact
- monitoring of windows and doors

Conformity
- CE marking according to EMC and RoHS

Technical data
- switching voltage: max. 24 V AC/DC
- switching current: max. 250 mA
- switching power: max. 3 W
- dimensions H/W/D: 59.5 x 23.3 x 15.3 mm

Window contact switch type FK300

complete	92 102 03



Central shut-off device type FSA

Part no.

suitable for the exhaust gas extraction monitoring system for the manual shut-off of the gas supply

consisting of: ball valve with integrated thermal shut-off device (TAE) and dual solenoid valve DMV-D 507/11

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS**.

Advantages and equipment
- for all combustible gases according to DVGW worksheet G 260
- increased fire safety through integrated thermal release (according to TRGI) in the gas ball valve
- sieve to protect downstream devices from contamination
- normally closed for the central and automatic shut-off of the gas supply to all downstream consuming appliances

Conformity
- EC type examination certificate GAR

Technical data
- supply voltage: 220 to 240 V, 50 to 60 Hz

Central shut-off device

type FSA 315R05	
Rp 1/2 F x Rp 1/2 F DN 15	92 101 01
type FSA 320R05	
Rp 3/4 F x Rp 3/4 F DN 20	92 101 02
type FSA 325R05	
Rp 1 F x Rp 1 F DN 25	92 101 03
type FSA 340R05	
Rp 1 1/2 F x G 1 1/2 F DN 40	92 101 04
type FSA 350R05	
Rp 2 F x G 2 F DN 50	92 101 05

Under-glass emergency stop button type GNA

Part no.



for manual shut-off of the gas supply in the case of a fire or emergency

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS.**

Advantages and equipment
- the housing includes printed circuit boards with terminal connections, a set of contacts and an actuating button
- the replaceable, standardised thin glass pane in the door, which can be locked using a standard key, protects against accidental activation
- the special locking mechanism holds the button in the pressed position while the manually operated locking lever allows it to be reset

Conformity
- CE marking according to EMC, LVD and RoHS

Technical data
- dimensions H/W/D: 125 x 125 x 34 mm
- switching power: 250 V AC / 2 A
- protection type: IP43

Under-glass emergency stop button type GNA

complete	92 001 00

Pressure monitor

Part no.



for the exhaust gas extraction monitoring system type EMS

For further information, visit the **landing page for the exhaust gas extraction monitoring system EMS**.

Advantages and equipment
- with attached mounting bracket
- with hose connection and handwheel for setting the switching points

Conformity
- EC type examination certificate GAR
- CE marking according to EMC and RoHS

Technical data
- maximum inlet pressure: pe_{max} 500 mbar
- supply voltage: 230 V AC 50 to 60 Hz

Exhaust air pressure monitor type DW 500WZ

complete	92 102 01

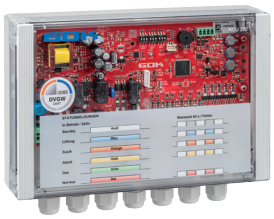
Supply air pressure monitor type VL 500WZ

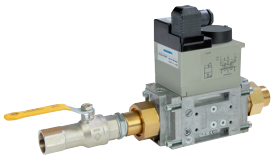
complete	92 102 02

Technical data

Technical data of the exhaust gas extraction monitoring system type EMS

Consisting of a kitchen control unit type KCU 200 ADW and associated central shut-off device type FSA corresponding to the maximum output load:

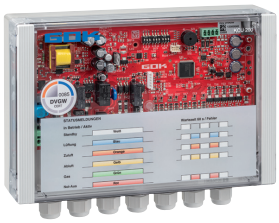






Exhaust gas extraction monitoring system type EMS	
Type	**Technical data**
EMS 415 R05	DN 15; Rp 1/2 F
EMS 420 R05	DN 20; Rp 3/4 F
EMS 425 R05	DN 25; Rp 1 F
EMS 440 R05	DN 40; Rp 1 1/2 F
EMS 450 R05	DN 50; Rp 2 F

Technical data of the kitchen control unit type KCU



Kitchen control unit type KCU	
Type	KCU 200 ADW
Operating voltage	230 V ~ / 50–60 Hz
Protection type	IP 54
Housing	surface-mounted plastic, light grey, plexiglass
Continuous operation	> 24 h suitable
Display	RGB LED (operation/error)
Certification	DIN EN 13611, EC type-tested

Services & support

The safe and reliable operation of gas equipment in commercial kitchens requires effective monitoring of the exhaust gas extraction. The services offered by GOK help operators, engineers and fitters ensure that the exhaust gas extraction monitoring system type EMS is put into operation professionally and is checked on a regular basis.

Commissioning & instruction

After installing the EMS, GOK takes care of the professional start-up of the EMS system.

Our services

- checking of installed components and connections
- checking the functioning of the monitoring device
- checking and, if necessary, adjustment of the pressure monitor
- function check of the entire system
- instruction of operating personnel and handover of operating documentation

This way, we ensure that the system works correctly and complies with the requirements of the respective regulations.

Periodic inspections & maintenance

To ensure safe operating conditions, we recommend a regular inspection of the system. The maintenance is initially performed 12 months after the commissioning and annually thereafter.

Scope of service

- visual inspection of all assemblies and components
- leak-tightness and function check of safety devices
- checking and, if necessary, adjustment of the pressure monitor
- function check of the entire monitoring device

Regular maintenance supports the safe and trouble-free operation of the system.

Documentation & evidence

All work carried out is comprehensively documented.

You will receive

- inspection and function check logs
- system evaluation and notes on operation
- proof of proper start-up and/or maintenance

This documentation serves as important proof for operators, engineers and public authorities.

Your benefits

- professional start-up by experienced service technicians
- support in compliance with the relevant regulations
- high operational safety for commercial kitchen systems
- transparent documentation and clear inspection reports

Contact persons

Contact for engineers and fitters

Your local partner:

Region:
Germany (excluding Bavaria and Baden-Württemberg), Austria, Switzerland and Luxembourg

Karl-Heinz Rahner
Mobile: +49 151 74308530
Email: k.rahner@gok.de

Region:
Bavaria and Baden-Württemberg

Andreas Lauck
Mobile: +49 170 6412794
Email: a.lauck@gok.de

Commercial advice

Telephone: +49 9332 404-9292
Email: kundendienst@gok.de

Technical support

Telephone: +49 9332 404-9393
Email: support@gok.de



APPLICATIONS of GOK PRODUCTS

■ Tank systems



■ Cylinder systems



■ Equipment for LPG tanks



■ Warming, burning, soldering



Components • Solutions • Systems

10/2026

GOK Regler- und Armaturen-Gesellschaft mbH & Co. KG • **Obernbreiter Straße 2-18** • **97340 Marktbreit / Germany**
Telephone: **+49 9332 404-0** • Telefax: **+49 9332 404-49** • E-mail: info@gok.de • www.gok.de • www.gok-blog.de