

OSGC EP

ODORIZATION SYSTEMS

Our odorizing systems have been manufactured since 1995 and thanks to long-term experience comply with technical trends and safety regulations. The odorization station is manufactured in several versions. According to the customer, these stations can be adapted to his requirements. Odorizing stations are suitable for all types of odorants.

Reason for odorization

The use of natural gas unconditionally requires odorization so that gas leaks can be identified immediately and at any time at each point of the gas installation and supply network. The purpose of odorization is to give the odorless gas a characteristic odor that allows it to be recognized well below the explosive limit.

In order to be able to mix the odorant into the gas, it is necessary to design a special dosing principle. For this purpose the injection technology is used. Here, the odorant is mixed into the gas economically and efficiently in precise doses. This achieves the required safe odor, economy of operation and no overdose.

The core of our odorizing system type EP1 is a LEWA diaphragm pump. This device is self-sucking and do not require additional energy to suck odorant from the tank. The entire system of the odorization device is tight and made of materials that guarantee the reliability of the device and at the same time eliminate any leakage of the system.

Odorization system

Our odorizing equipment works on a injection basis. The standard is that information about the current gas flow is transmitted from the gas meter, gas converter or control system via pulses. It is also possible to transmit this information via the MODBUS communication.



The control system of the odorization station evaluates this information and activates the dosing device - pump. The dosing device conveys the set amount of odorant from the storage tank via the injection device into the gas flow.

The UMARS-MINI electronics control the individual components of the station, control, dosing, data collection and transmission. It is certified for placement in Zone 2 hazardous areas.

The odorization station is equipped with filters for capturing impurities in the odorant and also with a filter with activated carbon on the deaeration pipe. A level indicator is placed on the front panel in order to visibly monitor the amount of odorant in the tank, but also to verify the functionality of the dosing device.

The amount of odorant in the storage tank is recorded by an ultrasonic level sensor, which informs about the level status and the set limit values, i.e. about reduced and low level. The odorization station is shut down in the event of a low odorant level in order to prevent aeration of the station.

A flow meter fitted behind the dosing device indicates whether a dose has been performed. After the dose, the green LED diode lights up. If these doses are not detected by the flow meter in the interval of 10 doses, the control electronics will shut down the odorization station.

The by-pass valve serves not only to test the dosed amount of odorant, but also to initially vent the entire odorizing device.

GASCONTROL,
společnost s r.o.
Nový Svět 1407/59a
Havířov-Prostřední Suchá
ZIP CODE: 735 64
CZECH REPUBLIC
T.: +420 596 496 411
F.: +420 596 496 397
e-mail:
gascontrol@gascontrol.cz
www.gascontrol.cz

GC | GROUP
MEMBER

**ODORISATION
DIVISION**

Contact:
cell.: +420 724 894 892
e-mail: odorizace@gascontrol.cz

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Standard design of our stations

- dosing pump
- control electronics
- 50 dm³ storage tank
- 88 dm³ drip tray
- filling quick coupling
- activated carbon filter on the ventilation duct
- odorization filter
- optical level indicator of odorant
- injection equipment
- drip-free filling quick coupling
- safety valve

Additional equipment

- flow meter
- ultrasonic odorant level sensor
- backup dosing device
- stainless steel container
- optional tank parameters and odorization station size according to customer specifications

Control Unit

UMARS-MINI control unit is designed for control, management, data collection and transmission. It enables local and remote setting of all parameters, transmission of these parameters and fault signaling. This control unit can be placed in or outside the potentially explosive atmosphere (zone 2).

The following operations can be set manually or remotely

- on/off of dosing
- increase / decrease of odorant dose in mg/Nm³
- information about the set dose in mg/Nm³
- information about the level of odorant
- fault indication
- etc.



Dosing Pump

The diaphragm electromagnetic pump is designed for dosing chemicals with low viscosity (especially odorant) into the gas pipeline. It is certified for potentially explosive atmospheres.

Filling of Odorant

Filling of the storage tank is performed using quick coupling by pumping from exchangeable or disposable barrels.

Injection Equipment

It allows the odorant to enter the gas pipeline. It includes a shut-off valve, a non-return valve and a screw connection with a spray nozzle.

Optical Level Indicator

Serves to visually check the level of odorant in a storage tank when filling storage tanks. Level indicator allows adjustment and control of the dosing device dose. It consists of a glass tube guided in a protective cover.

Activated Carbon Filter

Prevent the spread of pollutants from a storage tank.

Flowmeter

It signals each dose of odorant performed and its pulses are used by the station control system to control the function of the dosing device.

Storage Tank

Odorant storage tank made of stainless steel is delivered according to the type of station in sizes according to the customer. Most often in the range of 20–200 dm³.

Drip Tray

A tray made of stainless steel is part of the station construction and serves to catch any leakage of odorant.

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OS TECHNICAL PARAMETERS

	A03	B08
<i>Pump type</i>		
<i>Power Voltage of the Station</i>	230 V AC 50 Hz	230 V AC 50 Hz
<i>Performance</i>	10 VA	10 VA
<i>Ex Pump Marking</i>	II 2G c IIC T1-T4	II 2G c IIC T1-T4
<i>EU Certificate no.</i>	FTZÚ 14 ATEX 0120X	FTZÚ 14 ATEX 0120X
<i>Ex Electronics Marking</i>	Ex II3(2)G Ex nA nC (ib Gb) IIB T4 Gc	Ex II3(2)G Ex nA nC (ib Gb) IIB T4 Gc
<i>Pump Protection</i>	IP 55	IP 55
<i>Electronics Protection</i>	IP 54	IP 54
<i>Pump Design</i>	Membrane (stainless steel 1.4401 K)	Membrane (stainless steel 1.4401 K)
<i>Max. Back Pressure</i>	30 bar	30 bar
<i>Dosage per Stroke</i>	0 - 0,022 ml (0 - 22 mg)	0 - 0,251 ml (0 - 251 mg)
<i>Max. no. of Strokes</i>	185 dosed/min	130 doses/min
<i>Dosage Range</i>	0 - 0,2 dm ³ /h	0 - 1,7 dm ³ /h
<i>Operating Temperature</i>	-30 ÷ 60 °C	-30 ÷ 60 °C
<i>Max. Odorization Performance</i>	15 000 Nm ³ /h (at impact odorizing of 40 mg/Nm ³)	120 000 Nm ³ /h (at impact odorizing of 40 mg/Nm ³)
<i>Normal Odorization Performance</i>	60 000 Nm ³ /h (at odorizing of 10 mg/Nm ³)	480 000 Nm ³ /h (at odorizing of 10 mg/Nm ³)
<i>Standard Frame Dimensions (HxWxD)</i>	1150x480x580 mm	1150x480x580 mm
<i>Standard Tank Volume</i>	50 dm ³	50 dm ³
<i>Standard Drip Tray Dimensions (HxWxD)</i>	170x650x800 mm	170x650x800 mm
<i>Standard Drip Tray Volume</i>	88 dm ³	88 dm ³
<i>Odorant Type</i>	acc. to the customer	acc. to the customer
<i>Weight of the Station</i>	acc. to configuration	acc. to configuration
<i>Communication</i>	MODBUS TCP, MODBUS RTU	MODBUS TCP, MODBUS RTU
<i>Communication Interface</i>	RS232, RS485, Ethernet	RS232, RS485, Ethernet

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