GIG Research Institute

[1] EU TYPE EXAMINATION CERTIFICATE

[2] Protective equipment and systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817)

[3] EU type examination certificate (module B):

KDB 20ATEX0056X **1 edition**

[4] Equipment:

GasEye Extractive Ex1,
GasEye Extractive Ex1 ET

[5] Manufacturer:

Airoptic Sp. z o.o.

[6] Address:

ul. Rubież 46B, 61-612 Poznań, Poland

[7] The protective equipment or system and any acceptable variations thereto are specified in the schedule to this certificate.

[8] Central Mining Institute, Notified Body no 1453 according to Directive 2014/34/EU of February 26, 2014, approves that the protective equipment or system specified in this certificate has been found to comply with the essential health and safety requirements for the design and construction of protective equipment and systems intended for use in potentially explosive atmosphere given in Annex II to Directive 2014/34 /EU (Załącznik nr 2 Rozporządzenia Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The results of the assessment and examinations as well as the list of agreed documentation are recorded in the confidential Report **KDB No 20.090-1 [T-7662]**

[9] The essential health and safety requirements have been met by compliance with the requirements of the following standards:

EN IEC 60079-0:2018; EN 60079-2:2014; EN 60079-26:2015; EN 60079-28:2015

[10] If sign "X" is placed after the certificate number, this means the specific conditions of use set out in the schedule to this certificate.

[11] This EU type examination certificate relates only to the construction, assessment and testing of the specified product in accordance with Directive 2014/34 /EU (Rozporządzenie Ministra Rozwoju z dnia 06.06.2016r. Dz.U. z dnia 09.06.2016r. Poz. 817). The certificate shall not cover the remaining requirements of the Directive regarding the manufacturing process and placing the protective equipment or system on the market.

[12] The marking of the equipment shall include the following:

GasEye Extractive Ex1
II 1/2G Ex op is pxb IIC T* Ga/Gb
II 1/2D Ex op is pxb IIIC T Da/Db**

GasEye Extractive Ex1 ET
II 1/2G Ex db eb h ia ib op is pxb q IIC T* Ga/Gb
II 1/2D Ex h ia ib op is tb pxb q IIIC T Da/Db**

ATEX Certification Expert

Główny Instytut Górnictwa Jednostka Oceny Zgodności Zastępca Kierownika
dr inż. Jacek Sobala

Date of issue: **22.07.2021**

Central Mining Institute, 40-166 Katowice, Plac Gwarków 1, Poland, www.gig.eu
Conformity Assessment Body, 43-190 Mikołów, ul. Podleska 72, www.gigcert.com
Certification Body accredited by PCA *[Polish Centre for Accreditation]*, **No AC038.**

[15] Description:

GasEye Extractive Ex1

The GasEye Extractive Ex1 is a versatile gas analyzing tool for industrial process applications. A process gas sample is continuously fed into the analyzer where it is analyzed in real time utilizing laser absorption spectroscopy. It can be configured to operate in the near-infrared (NIR), mid-infrared (MIR) and infrared (IR) wavelength range thereby allowing to analyze the majority of gases of interest in the industrial process monitoring.

GasEye Extractive Ex1 utilizes 1 to 8 lasers to analyze one or more gases. The GasEye Extractive Ex1 system is assembled in one stainless-steel wall-mounted enclosure. Gas analysis is carried out in a cuvette installed inside a pressurized enclosure.

Technical parameters:

Power input Un:	230 VAC (100~240VAC)	
Power consumption:	< 300W	
Degree of protection:	IP 66	
Ambient temperature:	-30°C ÷ +50°C	Temperature class **T6** Maximum surface temperature **85°C**
	-30°C ÷ +60°C	Temperature class **T5** Maximum surface temperature **100°C**
Pre-purge time:	≥ 3 min.	
Inlet pressure:	2 bar	
Minimal pressure:	not less than 1.4 mbar during continuous system work after initial purging.	

Additional equipment of the GasEye Extractive Ex1 spectrometer system:

1. Purging system controller

Producer: Pepperl+fuchs

Model: 6500-01-EXT1-PNO-LNO

Number of ATEX certificate: UL/DEMKO 16ATEX1640X

Marking:

II 2G Ex eb q ib [ib pxb] IIC T4 Gb
II 2D Ex tb ib [ib pxb] IIIC T135°C Db
II 2G Ex eb q ib [ib pyb] IIC T4 Gb
II 2D Ex tb ib [ib pyb] IIIC T135°C Db

(Ta = -20°C ÷ +70°C)

2.Purging system vent

Producer: Pepperl+fuchs
Model: EPV-6500-07
Number of ATEX certificate: DEMKO 15ATEX1622X
Marking:

II 2G Ex ib [pxb] IIC T4 Gb
II 2D Ex ib [pxb] IIIC T135°C Db
II 2G Ex ib [pyb] IIC T4 Gb
II 2D Ex ib [pyb] IIIC T135°C Db (Ta: -20°C÷+70°C)

3.Solenoid operator

Producer: Nass magnet
Type: 1259 30 / 5146
Number of ATEX certificate: PTB 02ATEX2154
Marking:

II 2G Ex ia IIC T6 Gb
lub
II 2G Ex ia IIB T6 Gb (Ta: -40°C÷+50°C)

or

II 2G Ex ia IIC T4 Gb
lub
II 2G Ex ia IIB T4 Gb (Ta: -40°C÷+85°C)

or

Producer: Nass magnet
Type: 1262 50 / W5146
Number of ATEX certificate: PTB 09ATEX2001
Marking:

II 2G Ex ia IIC/IIB T6 Ga
II 2D Ex t IIIC T80°C Db (Ta: -40°C÷+50°C)

or

II 2G Ex ia IIC/IIB T4 Ga
II 2D Ex t IIIC T130°C Db (Ta: -40°C÷+85°C)

GasEye Extractive Ex1 ET

GasEye Extractive Ex1 ET (with an extended temperature) is a comprehensive tool for gas analysis in industrial processes, which uses the GasEye Extractive Ex1 analyzer with additional equipment. All equipment was installed in an additional enclosure made of stainless steel. The housing has been equipped into a convection heater controlled by a thermostat. The thermostat maintains the temperature inside the housing above 15°C.

The following explosion-proof equipment is used in the GasEye Extractive Ex1 ET:

No.	Device / Component	Type	Marking	Certificate
1.	GasEye Extractive	Ex1	Ⓔx II 1/2G Ex op is pxb IIC T* Ga/Gb Ⓔx II 1/2D Ex op is pxb IIIC T** Da/Db	KDB 20ATEX0056X
2.	Metal housing	RSA-ATEX-OH-116-060	Ⓔx II 2G Ex eb IIC Gb Ⓔx II 2D Ex tb IIIC Db	OBAC 15ATEX0203U
3.	Purging controller	6500-01-EXT1-PNO-LNO	Ⓔx II 2G Ex eb q ib [ib pxb] IIC T4 Gb Ⓔx II 2D Ex tb ib [ib pxb] IIIC T135°C Db Ⓔx II 2G Ex eb q ib [ib pyb] IIC T4 Gb Ⓔx II 2D Ex tb ib [ib pyb] IIIC T135°C Db	UL/DEMKO 16ATEX1640X
4.	Purging system vent	EPV-6500-07	Ⓔx II 2G Ex ib [pxb] IIC T4 Gb Ⓔx II 2D Ex ib [pxb] IIIC T135°C Db Ⓔx II 2G Ex ib [pyb] IIC T4 Gb Ⓔx II 2D Ex ib [pyb] IIIC T135°C Db	DEMKO 15ATEX1622X
5.	Solenoid operator	1259 30 / 5146	Ⓔx II 2G Ex ia IIC T6/T4 Gb Ⓔx II 2G Ex ia IIB T6/T4 Gb	PTB 02ATEX2154
		1262 50 / W5146	Ⓔx II 2G Ex ia IIC/IIB T6/T4 Ga Ⓔx II 2D Ex t IIIC T80°C/130°C Db	PTB 09ATEX2001
6.	Junction box	CEP 252512	Ⓔx II 2G Ex e IIC T6/T5 Gb Ⓔx II 2D Ex tb IIIC T85°C/T100°C Db	SIRA 08ATEX3213
7.	Manometer	232.30.063 + option ATEX	Ⓔx II 2G Ex h IIC T6...T1 Gb Ⓔx II 2D Ex h IIIC T85°C...T450°C	-
8.	Convection type heater 100W	CREx020 02052.0-10	Ⓔx II 2G Ex db IIC T5 Gb Ⓔx II 2D Ex tb IIIC T100°C Db	EPS 16ATEX1109X
9.	Thermostat	REx 011	Ⓔx II 2G Ex db IIC T6 Gb Ⓔx II 2D Ex tb IIIC T85°C Db	EPS 16ATEX1118X

10.	Cable glands	EX1126.20.140 - M20 EX1126.17.100 - M16	Ⓔx II 2G Ex e IIC Ⓔx II 2D Ex tD IIIC A21 IP68	PTB 10ATEX1034X
		HSK-M-Ex-d 1.622.2000.50 - M20 1.622.1600.50 - M16	Ⓔx II 2G Ex db IIC Gb Ⓔx II 1D Ex ta IIIC Da	KEMA 99ATEX6968X
11.	Breath drain	DP-E-3-0-04-s2	Ⓔx II 2G Ex e IIC Gb Ⓔx II 2D Ex tb IIIC Db	ITS 16ATEX101338 X
		BDRVX-1MBNS.K01	Ⓔx II 2G Ex eb IIC Gb Ⓔx II 2D Ex tb IIIC Db	IMQ 13ATEX030X

Technical parameters:

Power input Un:	230 VAC (100~240VAC)	
Power consumption:	< 400W	
Degree of protection:	IP 66	
Ambient temperature:	-30°C ÷ +60°C	Temperature class **T4** Maximum surface temperature **135°C**
Pre-purge time:	≥ 3 min.	
Inlet pressure:	2 bar	
Minimal pressure:	not less than 1.4 mbar during continuous system work after initial purging.	

[16] Test Report:

"ATEX assessment report" KDB No 20.090-1

Główny Instytut Górnictwa
Jednostka Oceny Zgodności

[17] Special conditions of use:

- Temperature class of the **GasEye Extractive Ex1** (T* for gas) or the maximum surface temperature (T** for dust) depends on the process temperature of the controlled medium. For the temperature of the medium higher than declared maximum ambient temperature the temperature class T* and the maximum surface temperature T** should be determined in accordance with the manufacturer's manual.
- External parts of the **GasEye Extractive Ex1** made of plastic should be cleaned with a damp cloth, with the addition of antistatic fluids.
- Enclosure of the **GasEye Extractive Ex1** should be installed in a way that prevents electrostatic charging, in accordance with the instructions.
- Temperature class of the **GasEye Extractive Ex1 ET** (T* for gas) or the maximum surface temperature (T** for dust) depends on the process temperature of the controlled medium. For the temperature of the medium higher than declared maximum ambient temperature the temperature class T* and the maximum surface temperature T** should be determined in accordance with the manufacturer's manual.
- **GasEye Extractive Ex1 ET** device must be protected against direct sunlight.

[18] Essential health and safety requirements:

Met by fulfilling the requirements of the following standards:

EN IEC 60079-0:2018 (PN-EN IEC 60079-0:2018-09);
EN 60079-2:2014 (PN-EN 60079-2:2015-02);
EN 60079-26:2015 (PN-EN 60079-26:2015-04);
EN 60079-28:2015 (PN-EN 60079-28:2015-12);

Document history:

- EU type examination certificate KDB 20ATEX0056X, 0 edition of 22.12.2020, initial certification.
- EU type examination certificate KDB 20ATEX0056X, 1st edition of 22.07.2021, supersedes the certificate KDB 20ATEX0056X, 0 edition of 22.12.2020.
  Construction of the device was changed. A new version of the device was added.

Główny Instytut Górnictwa Jednostka Oceny Zgodności