

气体检测报警系统、粉尘检测系统
在线气体分析系统、粉尘检测系统



企业服务号



公司网站

产品选型手册

PRODUCT SELECTION GUIDE

在线气体分析系统、粉尘检测系统
ONLINE GAS ANALYSIS SYSTEM, DUST MONITORING SYSTEM

V2.8

南京艾伊科技有限公司

Nanjing AIYI Technologies Co.,Ltd.

厂址：江苏省南京市江宁区清水亭东路1318号联东U谷凯腾工业园13#

电话：400-025-9821 025-87787361

售后：18936877117

传真：025-87787362

网址：<http://www.autequ.com>

邮箱：sales@autequ.com

Add: Building 13, No. 1318 Qingshuiting East Road, Jiangning
District, Nanjing 210000, Jiangsu, China

Tel : +86-25-85949475 +86-25-66095359/87787361

Fax : +86-25-87787362

Website : www.autequ.com

E-mail : sales@autequ.com

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南京艾伊科技有限公司

Nanjing AIYI Technologies Co., Ltd.

科技创新 Scientific innovation
Specialized dedicated 专业专注

公司介绍 INTRODUCTION

南京艾伊科技有限公司是一家集研发、生产、销售光机电一体化产品的高新技术企业。公司主要致力于气体检测报警装置、在线气体分析仪、粉尘仪、烟气连续在线监测系统新一代光电测量技术的研发、生产、应用。公司拥有专业的研发团队、一流的工业自动化应用专家，并聘请资深专家担当技术顾问，为电力、冶金、石油、化工、医药、食品、汽车等行业的工业自动化过程控制、安全生产、环境监测提供整体解决方案和技术服务。

公司自成立以来一直秉承“安全艾伊、环保艾伊、创新艾伊”的梦想，遵循“专注安全检测、气体分析，为客户增值、为员工筑梦”的使命，凭借先进的生产设备和雄厚的技术力量，累计获得知识产权40余项。公司的产品覆盖全国以及全球30多个国家，并且取得良好的口碑。

我们的愿景：安全艾伊、环保艾伊、创新艾伊。

我们的使命：专注安全检测、气体分析，为客户增值、为员工筑梦。



Nanjing AIYI Technologies Co., Ltd. is a high-tech company that integrates R&D, production, and sales of optical-mechanical-electrical integration products. We are dedicated to the research, development, production and application of new-generation optical measurement technologies such as gas detection systems, online gas analyzers, dust monitors, and CEMS (continuous emission monitoring system). AIYI Technologies has a professional R&D team, leading experts in industrial automation applications, and employs senior experts as technical consultants to provide the overall solution and technical services of industrial automation process control, safety production, and environmental monitoring for power, metallurgy, petroleum, chemical, pharmaceutical, food, and automotive industries.

Since its foundation, the company has been adhering to the dream of “safe, environmental, innovative, the AIYI it is!” following the mission of “Focus on safety detection and gas analysis. We fulfilling the objective along clients, and building our dream along each personnel”, with advanced production equipment and strong technical force, we have accumulated more than 40 intellectual property rights. AIYI Technologies’ products have covered China and reach more than 30 countries around the world with a good reputation.

Our vision: safe, environmental, innovative, the AIYI it is!

Our mission: Focus on safety detection and gas analysis. We fulfilling the objective along clients, and building our dream along each personnel.



资质荣誉

QUALIFICATION & HONOR

南京艾伊科技有限公司严格执行国家相关体系标准，为客户提供优质可靠的产品。公司先后取得高新技术企业证书、国家生产制造计量器具许可证、国家防爆电器产品质量监督检验中心防爆合格证、中国国家强制性产品认证证书（CCC认证）、ISO:9001-2008质量管理体系认证、ATEX防爆CE认证、SIL认证等多项资格认证。

AE Technology is a strict follower of all relevant national standards for the sake of high quality and reliable products. It has successively obtained the national permit for the production of measuring instruments, certificate of approval issued by China National Quality Supervision and Test Center for Explosion Protected Electrical Products, certificate of China Compulsion Certification (CCC Certification), certificate of ISO:9001-2008, ATEX Certification etc.

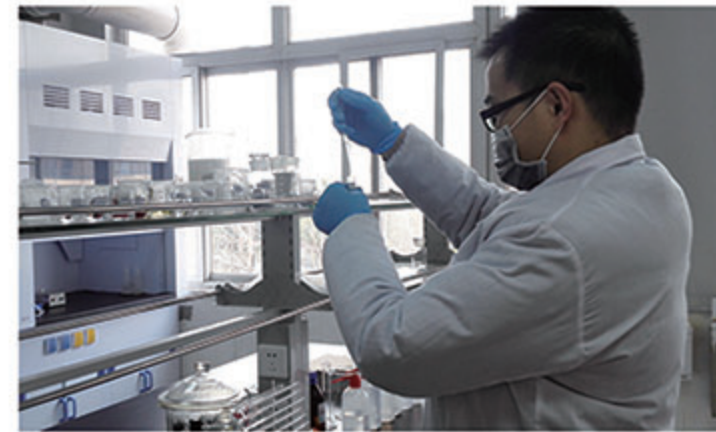


研发与科研

RESEARCH & DEVELOPMENT

公司一直秉承“科技创新，专业专注”的经营理念，坚持独立研发生产，不断吸收国内外先进技术，提高企业的核心竞争力。公司拥有独立研发实验室，已取得各项发明专利、实用新型专利和软件著作权证达30余项。

研发中心自成立以来，不断引进各类光学、自动化专业人才，目前研发中心硕士以上学历超过40%，公司拥有化学、电子、环境等多个实验室，并配备了先进的实验设备，我们将不断探索，为自动化领域的发展做出最大贡献。



AE Technology has always been adhering to the operational concept of “Scientific innovation, Specialized dedicated” and insists independent R&D and production, keeps introducing advanced domestic and foreign technologies and improving the core competitiveness of the company. AE Technology is in possession of more than 20 patents of various kinds.

Our R&D Center has been welcoming talented people of optic and automation professions ever since its founding. As of now, the proportion of staff with bachelor degree or above in the center exceeds over 80%. The laboratory has dozens of environmental and safety experiment devices such as gazogene, temperature & humidity chamber.



生产设备

PRODUCTION EQUIPMENT

南京艾伊(AE)科技作为现代化的安全仪表生产厂商,公司拥有装配、测试、老化、检验包装等各类生产加工设备。

公司建立了完善的质量控制体系,严格按照ISO:9001-2008质量管体体系要求进行生产,公司配有高低温交变湿热箱、气体配比浓度箱、电子温度计、接地测阻仪、分贝仪等专业检测设备,确保每台产品高品质的满足客户需求。目前,公司产品已成功运行在医药、化工、石化等场合,产品的稳定性和性能受到了客户的一致认可。

As a modern instrument manufacturer, AIYI Technologies is equipped with various production and processing devices for assembly, testing, aging, and packaging inspection,

AIYI Technologies has built up a complete quality control system and it strictly follows the requirements of ISO:9001-2015. The company is equipped with temperature & humidity chamber, gas compounding & concentration chamber, electronic thermometer, grounding resistor sensor, sound meter etc., making sure that every single product meets the demand of customers. Currently, our products have been successfully applied in a variety of places related to pharmaceuticals, chemical engineering, and petrochemical engineering, of which the reliability and performance have been recognized by customers.



服务与咨询

SERVICES & CONSULTING



● 售前：选型与咨询 Pre-sales: Product selection & consultation

根据现场工况与需求,提供产品选型与技术咨询服务,提供专业化、定制化的产品解决方案。

We offer services of product selection and technological consultation as well as professional and customized solutions based on specific working conditions and demands.

● 售中：培训与交流 Sales-tracking: Training and consultation

公司拥有完备的产品安装、使用与维护资料,可根据客户要求由专业技术工程师进行产品使用与维护的技术培训与交流。

We are in possession of complete resources for product installation, operation and maintenance, and our professional engineers offer technical training and consultation regarding product operation and maintenance if required.

● 售后：标定与维修 After-sales: Calibration & maintenance

我公司技术人员持有国家相关部门颁发的检定员证书,并配有专业的仪器设备,可提供产品的维修和标定服务,确保产品使用,为工厂安全生产提供更加可靠的保障。

我们承诺提供终生产品服务,产品出现故障时,将有专业技术工程师协助您解决问题。

Our technician hold calibrator certificates issued by relevant national authorities and are equipped with professional equipment to provide product maintenance and calibration services to ensure the use of products and provide more reliable protection for the customer's safe production.

We are committed to providing lifelong aftersale services. a professional technician will assist you in solving the problem.

服务客户

OUR CUSTOMERS

多年来, 凭借对安全的专注, 良好的口碑, 标准化的质量管理体系及全面的服务体系, 艾伊科技已成为国内气体分析、粉尘安全领域内的品牌企业。公司长期为国内外知名企业提供服务, 深入医药、农化、环保、汽车、饲料、食品等行业。公司产品质量和专业服务受到客户高度的认可和广泛好评。

With our expertise in safety and excellent reputation, standardized quality management system and all-sided service system throughout the years, AIYI Technologies has already become a leading brand in the gas & dust safety industry in China. AIYI Technologies has been providing products and services for Chinese and foreign well-known enterprises and has extended its businesses in pharmaceuticals, agrochemicals, environmental protection, automobile, fodder and food. The product quality and professional service of AIYI Technologies have been highly regarded and widely acclaimed among customers.



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AIYI TECHNOLOGIES PROVIDES
PERFECT AND STABLE GAS ANALYSIS SOLUTIONS FOR YOU.

艾伊科技为您提供 完善、稳定的气体分析解决方案



气体过程分析系统在工业的应用十分广泛，为生产过程控制、提高产品质量、生产安全提供重要手段和依据。由于气体分析仪的专业性较强，很多客户由于选型不当、疏于维护等，导致在实际生产过程中在线分析仪不能正常可靠持续的投入运行，无法发挥真正作用。

南京艾伊科技拥有多年分析仪生产经验和专业服务团队，可根据客户的现场工况条件，提供定制化的解决方案。针对客户常遇到的恶劣环境下长期运行等难题，南京艾伊科技凭借雄厚的技术力量，自主研发多项技术进行解决，为客户提供完善、稳定的气体分析解决方案。

Gas process analysis system is widely used in industries. The speciality of Gas analyzers is relatively high. Therefore, lots of customers may choose improper gas analyzers or neglect maintenance, which results in online analyzers failing in normal, reliable and continuous operation and really work in actual production process.

Nanjing AE Science and Technology Co., Ltd. has several years of production experience of analyzers and professional service team. The company can offer customized solutions based on customer's onsite working conditions. For the problem of long-term operation in harsh environment that customer always encounter, depending on its strong technical force and independent R & D of many techniques, the company can solve them and provide perfect and stable gas analysis solutions for customers.

分析气体种类多，工艺复杂多变，如何选型及有效检测？

In condition of various kinds of gases to be analyzed and complex and changing technique, can the effective detection be carried out?

仪器刚买时数据还算准确，但后期偏差越来越大？

The analyzer works accurately when it is just bought. Will the data deviation come bigger later?

仪器操作复杂，维护人员一旦经常变更，是否有配套培训系统？

Since the analyzer is complicated to operate. Once operator often changes, is there equipped with training system?



后期备件更换成本？
售后是否及时？

What's the cost of parts replacement in later period? Is there timely after-sale service?

系统经常出现漏气、堵塞等故障，仪表经常损坏？

There are always system failures like gas leakage and blocking. Is the instrument often out of order?

能否可以提供自动连锁等一体化解决方案？

Can integrated solution like automatic interlocking be provided?

一、专业气体分析仪选型

PROFESSIONAL MODEL SELECTION OF GAS ANALYZER

针对不同的气体、量程，分析仪有红外、激光、热导、顺磁、氧化锆等多种检测原理，其适用工况也各不相同。艾伊科技会根据现场实际需求选择最适合的检测仪表，确保选型的正确性。

For different gases and measuring ranges, there are multiple detection principles of analyzers including infrared, laser, heat conduction, paramagnetic and zirconia principles, which are applicable in different working conditions. AIYI Technologies will select the most suitable detection instrument according to actual field requirement to ensure the validity of model selection.



二、定制化采样与预处理系统

CUSTOMIZED SAMPLING AND PRETREATMENT SYSTEM

在线分析仪表能否长期稳定运行主要在于取样与预处理部分。如果样气中水分、杂质处理不当，将直接影响分析仪的使用。艾伊科技拥有多年行业经验，可根据情况提供定制化的预处理方案，确保干净、干燥、恒压、恒流的样气进入分析仪，提高分析仪的检测精度与使用寿命。

Sampling and pretreatment are mainly factors that influence long-term and stable operation of online analyzers. Improper treatment of moisture and impurities existed in sample gas will directly influence usage of analyzer. AIYI Technologies has many years of industry experience. It can offer customized pretreatment plan based on different conditions to ensure clean, dry, constant voltage and constant current sample gas enter analyzers and improve detection precision and service life of analyzers.



三、成熟行业应用经验

MATURE EXPERIENCE IN INDUSTRY APPLICATION

艾伊科技长期为钢铁、医药、化工、石化、食品、高校、饲料等各行业客户服务，积累了成熟的应用经验，针对不同的行业需求，可以设计出成熟、可靠的应用方案。

AIYI Technologies offer long-term customer service for steel industry, pharmaceutically industry, chemical industry, petrochemical industry, food industry, colleges and universities and feed industry and accumulate mature application experience. It can design mature and reliable application solutions according to requirements of different industries.



在线分析仪系列

ONLINE ANALYZER SERIES

在线分析仪作为气体含量分析的仪表，是气体在线分析系统中的核心部分。南京艾伊科技AGA系列在线分析仪可实时监测SO₂、CO、O₂等气体，根据检测气体、量程、应用工况的不同，拥有红外、顺磁、电化学、氧化锆、热导等多种分析仪供选择。

As a instrument analyzing gas content, online analyzer is the core part of gas online analysis system. AGA series online analyzer of AIYI Technologies can real-time monitor gas including SO₂, CO, CO₂, etc. According to different gases to be detected, measuring ranges and application working conditions, there are various kinds of analyzers to be selected including infrared analyzer, paramagnetic analyzer, electrochemistry analyzer, zirconia analyzer and heat conduction analyzer, etc.

AGA系列红外在线气体分析仪

AGA SERIES INFRARED ONLINE GAS ANALYZER



■ 概述 / INTRODUCTION

红外气体分析仪根据气体对红外光吸收的原理来实现对气体的过程监测。AGA1000系列分析仪采用先进的NDIR非分光原理，可用于钢铁、石化、天然气、实验室等领域的CO、CO₂、CH₄等气体的检测。

Infrared gas analyzer monitors gas based on principle of gas absorption of infrared light. AGA1000 series analyzer adopts advanced NDIR principle and can be used to detect gases including CO, CO₂ and CH₄ in steel industry, petrochemical field, natural gas field and laboratories, etc.



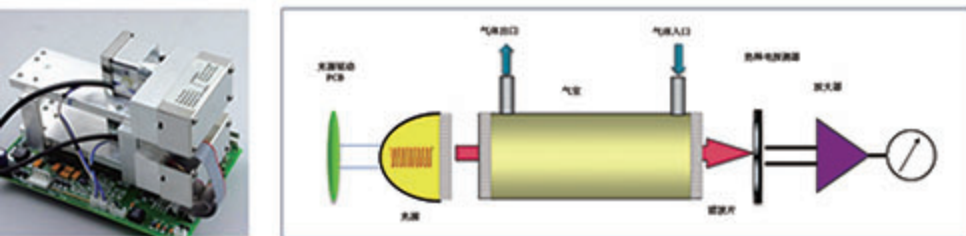
■ 应用 / APPLICATION



- 天然气气体分析
Natural gas analysis
- 高炉气体检测
Blast furnace gas detection
- 工业过程分析
Industrial process analysis
- 实验室气体分析
Laboratory gas analysis
- 环境检测
Environment detection
- 尾气废气检测
Exhaust gas detection

■ 功能特点 / MAIN FEATURES

- 可连续测量CO、CO₂、SO₂、CH₄等气体
It can continually measure gases including CO, CO₂, SO₂ and CH₄, etc.
- 可依情况同时分析一至三种组分
One and three gas contents can be detected depending on situations.
- NDIR非分光红外检测原理，精度高，稳定性好
It adopts NDIR detection principle and has high precision and good stability.
- 可配套预处理系统，用于各类恶劣工况
Pretreatment system can be equipped and be used in all poor working conditions.



先进的NDIR非分光红外技术

Advanced NDIR Technology

AGA1000系列在线气体分析仪配备了高精度红外分析模块, 该模块使用的非分光红外 (NDIR) 技术是基于非对称多原子分子气体 (如SO₂、NO等) 对特定波长的红外光具有选择性吸收的性质实现对气体浓度的检测。

AGA1000 series online gas analyzer is equipped with high-precision infrared analysis module. NDIR technology adopted in the module detects gas concentration based on selective absorption property of asymmetric polyatomic molecule gas (like SO₂ and NO) to particular wavelength of infrared light.

AGA1000	传统技术 Traditional Technology	优势 Advantages
电调制光源 Electronic modulated light source	机械调制光源 Mechanical modulated light source	电调制技术不会因机械磨损降低使用寿命, 不会因振动影响示值误差。 Electronic modulated technology will not reduce service life because of mechanical wear. Its indication error will not be influenced by vibration.
铝合金单气室 Aluminum Single Air Chamber	单气室或双气室 Single Air Chamber or Double Air Chambers	气室与外支撑分离的结构, 易于装卸清洗, 不易污染; 受外界温度波动影响小, 测量精度高。 The separated structure of air chamber and external support makes the analyzer to be loaded, unloaded and cleaned easily. Meanwhile, it is influenced slightly by external temperature fluctuation and has high measurement accuracy.
热释电传感器 Pyroelectric Sensor	薄膜微音器 Polyester-film Microphone	热释电传感器解决了常规分析仪气室怕污染, 漂移量大的问题, 数值检测更精确。 Pyroelectric sensor solves the problems of intolerable contamination and large drift amount of normal analyzer air chamber. The value detection accuracy is higher.
TEC 技术 TEC Technology	电阻式加热 Electrical resistance heating	相比于电阻式加热温控装置, TEC 温控技术既可加热, 也可制冷, 实现温度高精度控制。 Compared with electrical resistance heating temperature control device, TEC temperature control technology can realize both heating and cooling, and high precision temperature control.

产品参数 / PRODUCT PARAMETERS

产品参数表 Parameters	AGA1000	AGA1000d
检测原理 Principle	NDIR 非分光红外 NDIR	
检测气体 Gas type	CO: 0-2000ppm/1%/30%/100%vol CO ₂ : 0-5000ppm/1%/30%/100%vol SO ₂ : 0-1000/2000ppm NO: 0-2000ppm CH ₄ : 0-5%/15%/100%vol 乙烷 C ₂ H ₆ /乙烯 C ₂ H ₄ /乙炔 C ₂ H ₂ /丙烷 C ₃ H ₈ 气体及量程定制 Customized Gas Type and Measure Range	
零点漂移 Zero Drift	±2%F.S/7d	
量程漂移 Span Drift	±2%F.S/7d	
响应时间 Response Time	<20S (T90)	
样气流量 Sample Gas Flow	0.3-1.0L/min (最佳 0.4L/min Optimal Value: 0.4L/min)	
样气压力 Sample Gas Pressure	2-50kpa	
输出信号 Signal Output	4-20mA/RS485	
电源电压 Working Voltage	220VAC	
预处理系统 Pretreatment System	可选 Optional	
产品尺寸 Dimension	484 mm * 388 mm * 130mm	500 mm * 330 mm * 300mm
机柜尺寸 Cabinet Dimension	700 mm * 1800 mm * 710mm	1100 mm * 1800 mm * 700mm
适用认证 Certificates	CMC	CMC/ Ex d IIC T6 Gb

AGA系列顺磁在线氧气分析仪

AGA SERIES PARAMAGNETIC ONLINE OXYGEN ANALYZER



概述 / INTRODUCTION

AGA系列顺磁气体分析仪是基于氧气具有高顺磁性特点设计，可检测微量氧、常量氧、纯度氧等各种浓度。同时具有非防爆型和防爆型多种型号，可用于各种安全条件非常严峻的工业应用场合。

AGA series paramagnetic gas analyzer is designed based on the high paramagnetism characteristic of oxygen. It can be used to detect concentrations of trace oxygen, percent oxygen and pure oxygen. Furthermore, there are many types of analyzers such as non-explosion-proof type and explosion-proof types, which can be used in all kinds of industrial application environment with extremely serious safety conditions.



应用 / APPLICATION



- 空分高纯氧分析
High purity oxygen analysis in air separation
- 实验室气体含量测定
Laboratory gas content measurement
- 水泥、冶炼燃烧效率监控
Efficiency monitoring of cement and smelt combustion
- 高压氧舱氧气含量监测
Oxygen content monitoring of hyperbaric oxygen chamber
- 电捕焦氧量监控
Safety monitoring of steel
- 农业、医学生物学研究
Agriculture and medical biology research

功能特点 / MAIN FEATURES

机械哑铃式顺磁原理，检测精度高，预热时间短，响应速度快，线性度好。

Machinery dumbbell paramagnetic principle, high detecting precision, preheating not required, fast reaction, good linearity.

微量氧、常量氧、纯度氧全量程检测。

Full measuring range detection of trace oxygen, percent oxygen and pure oxygen.

非防爆型为标准19英寸机箱，开关量输出、4-20mA等多种信号输出。

Case of non-explosion-proof type is standard 19 inches, on-off output, several signal output like 4-20mA, etc.

防爆与非防爆可选，可配套预处理系统，用于各类工况

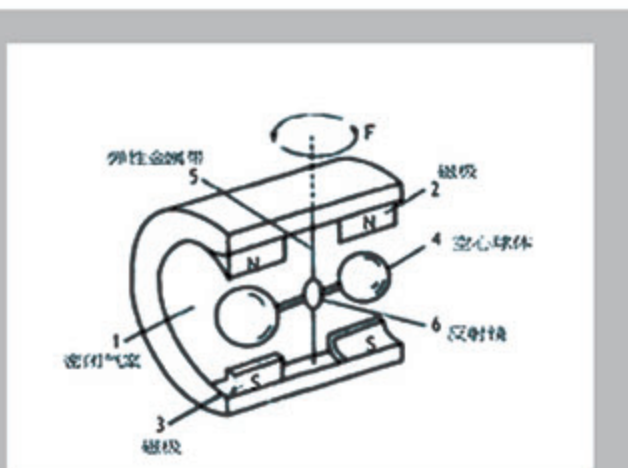
Non-explosion-proof type and explosion-proof type of analyzers can be selected; pretreatment system can be equipped for various working conditions.

磁力机械式氧气分析技术 Magneto-mechanical oxygen analysis technology

精准 ACCURATE

在0~100%VOL的范围内, 磁力机械式原理的线性刻度、测量精度远高于热磁、氧化锆等检测原理, 误差可低至±1%。

In the range of 0~100%VOL, linear scale and detecting precision of magneto-mechanical detecting principle is far higher than that of thermo-magnetic and zirconia. The error can be as low as ±1%.



AGA1010系列顺磁气体分析仪是根据氧气的顺磁性原理进行检测。在传感器封闭气室的两个磁极之间, 安装两个充满氮气的玻璃球(俗称哑铃), 它们固定在一个可以转动的同轴支架上。被测气体中的氧气会被吸入磁场, 产生对球体的作用力, 从而对转轴产生一个力矩, 力矩的大小和氧气浓度为线性关系。

AGA1010 series paramagnetic gas analyzer detects gas based on paramagnetism principle of oxygen. There are two glass balls full of nitrogen (commonly known as dumbbell) between two magnetic poles in closed gas chamber of sensor. They are fixed on a revolving coaxial bracket. Then oxygen from the gas to be detected will be inhaled in magnetic field and produce force towards balls to produce a torque. The relation between torque value and oxygen concentration is linear relation.

灵敏 SENSITIVE

相比于热磁、磁压式长达数小时的预热时间, 磁力机械式预热短, 开机即可检测。

Compared with several hours pretreatment time of thermo-magnetic and magnetic-pressure types, pretreatment is not required by magneto-mechanical type. Detection can be carried out once it is switched on.

可靠 RELIABLE

它是对氧的顺磁性直接测量的分析仪, 在测量中, 不受被测气体导热性变化、密度变化等影响。

It is an analyzer that directly measures paramagnetism of oxygen. During the measurement, it won't be influenced by thermal conductivity changes and density fluctuation of measured gas.

产品参数 / PRODUCT PARAMETERS

产品参数表 Parameters	AGA1010	AGA1010d
检测原理 Principle	磁力机械式 Magneto-mechanical type	
检测气体 Gas Type	O ₂ : 0-5%/30%/100%vol 可定制 Customized	
零点漂移 Zero Drift	±1%F.S/7d	
量程漂移 Span Drift	±1%F.S/7d	
响应时间 Response Time	<10S (T90)	
样气流量 Sample Gas Flow	<0.2L/min	
样气压力 Sample Gas Pressure	2-50kpa	
输出信号 Signal Output	4-20mA/RS485	
电源电压 Working Voltage	220VAC	
预处理系统 Pretreatment System	可选 Optional	
产品尺寸 Dimension	484 mm *388 mm *130mm	500 mm *330 mm *300mm
机柜尺寸 Cabinet Dimension	700 mm *1800 mm *710mm	1100 mm *1800 mm *700mm
适用认证 Certificate	\	Ex d IIC T6 Gb



AG系列电化学在线气体分析仪

AG SERIES ELECTROCHEMISTRY ONLINE GAS ANALYZER



AGA3000



AG310

应用 / APPLICATION



- ✓ 微量氧分析
Trace oxygen analysis
- ✓ 离心机、反应釜氧含量监控
Oxygen concentration monitoring of centrifuge and reaction kettle
- ✓ 尾气氧气体分析
Exhaust gas and Oxygen analysis
- ✓ 管道H₂S气体分析
Analysis of H₂S in process pipeline
- ✓ 储罐氧含量监控
Monitoring of oxygen concentration in storage tank
- ✓ 半导体行业保护气分析
Analysis of shielding gas in semiconductor industry

概述 / INTRODUCTION

AG系列电化学气体分析仪是利用气体在原电池中发生氧化还原反应产生电流实现检测。该系列分析仪可根据不同的现场需求选择不同的气体分析仪。

AG series electrochemistry online gas analyzer realizes detection through utilization of electric current generated by oxidation reduction reaction taken place by gas in primary cell. This series of analyzers can analyze different gases according to site demands, for example, oxygen, etc and be used in different occasions.



功能特点 / MAIN FEATURES

可检测氧气、硫化氢等多种气体，通用型高，适合多种用途。

It can be used to detect many kinds of gases like oxygen, H₂S, VOC, etc. It has high general purpose and is suitable for multiple uses.

电化学式传感器，检测精度高，可实现ppm级检测。

Electrochemistry sensor, high detecting precision, ppm level detection can be carried out.

传感器可更换，维护简单方便，成本低。

Sensor can be replaced, easy maintenance, low cost.

可配合预处理系统应用于各类腐蚀性工况。

Cooperating with pretreatment system, it can be used in various kinds of working conditions with corrosiveness.

电化学气体分析技术 Electrochemistry gas analysis technology



电化学原理类似电池，其工作电极和对电极由一薄层电解液隔开并经由一个很小的电阻联通外电路。当气体扩散进入传感器后，在敏感电极表面进行氧化或还原反应，产生电流并通过外电路流经两个电极。该电流的大小与气体的浓度直接相关，可通过外电路的负荷电阻予以测量。

Electrochemistry principle is the similar to battery principle. Its working electrode and counter electrode are separated by a thin layer of electrolyte and connect with external circuit through a small resistance. After gas diffusion into sensor, oxidation reaction or reduction reaction takes place on the surface of sensitive electrode surface, the electric current is generated and flows through external circuit and two electrodes. Current intensity is related to gas concentration and can be measured through load resistance of external circuit.

产品参数 / PRODUCT PARAMETERS

产品型号 Model	AGA3000/AG310	检测原理 Detection Principle	电化学 Electrochemical
检测气体 Gas Detected	O ₂ (0-1000ppm/5%VOL/25%VOL) 可定制 Customized		
零点漂移 Zero Drift	±5%F.S/1M	量程漂移 Span Drift	±5%F.S/1M
响应时间 Response Time	≤30S (T90)	输出信号 Signal Output	4-20mA/RS485
样气流量 Sample Gas Flow	0.3-1.0L/min (最佳 0.4L/min)	样气压力 Sample Gas Pressure	2-50kpa
电源电压 Working Voltage	24VDC	温度范围 Operating Temp.	-10℃~55℃
预处理系统 Pretreatment System	可选 Optional	适用认证 Certificates	CMC / Ex d IIC T6
产品尺寸 Dimension	225 mm *135 mm *85mm 184 mm *220 mm *99mm	机柜尺寸 Cabinet Dimension	830 mm *650mm *250mm

AGA系列紫外在线分析仪

AGA SERIES UV ONLINE GAS ANALYZER



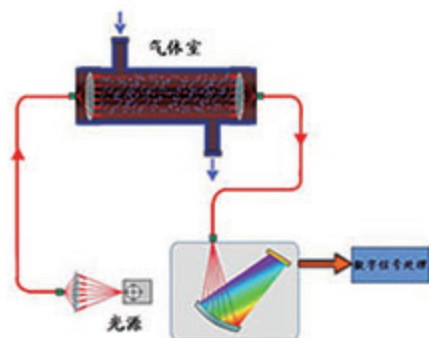
概述 / INTRODUCTION

AGA型紫外在线分析仪采用紫外差分吸收光谱分析法 (DOAS)，可检测烟气中SO₂、NO_x的浓度。紫外差分原理在低量程检测领域，具有精度高、抗交叉干扰能力强、寿命长等优点。仪表采用高精度光谱仪及成熟算法，保证了测量精准度，适用于低浓度排放烟气成分测量。

The AGA series UV Online Gas Analyzer uses the differential optical absorption spectroscopy (DOAS) to analysis the concentration of SO₂ and NO_x in the flue gas. The UV differential principle is good at the field of low measure range analysis with high accuracy, strong resistance to cross-interference, long lifespan. The instrument adopts high-precision spectrometer and mature algorithms to ensure the measurement accuracy and is suitable for the measurement of low-concentration smoke emission components.

紫外差分技术 Electrochemistry gas analysis technology

分析仪的测量单元，由光源、气体室、光纤和光谱仪（含光阑、全息光栅、线阵检测器）等组件构成。光源发出的紫外光经光学视窗进入气体室，被流经气体室的被测样气所吸收，携带被测样气吸收信息的光经透镜汇聚后耦合入光纤，经光纤传输送入光谱仪进行分光处理，即可得到气体的吸收光谱。通过对光谱进行差分分析，并结合化学计量学算法，可以得出气体中相关组分的浓度。



Electrochemistry principle is the similar to battery principle. Its working electrode and counter electrode are separated by a thin layer of electrolyte and connect with external circuit through a small resistance. After gas diffusion into sensor, oxidation reaction or reduction reaction takes place on the surface of sensitive electrode surface, the electric current is generated and flows through external circuit and two electrodes. Current intensity is related to gas concentration and can be measured through load resistance of external circuit.

产品参数 / PRODUCT PARAMETERS

产品型号 Model	AGA1050	检测原理 Principle	紫外 DOAS
检测气体 Gas Type	SO ₂ NO _x (0-300ppm) 可定制 Customized		
零点漂移 Zero Drift	±2%F.S/1M	量程漂移 Span Drift	±2%F.S/1M
响应时间 Response Time	≤20S (T90)	输出信号 Signal Output	4-20mA/RS485
样气流量 Sample Gas Flow	1.0~1.5L/min	样气压力 Sample Gas Pressure	2-50kpa
电源电压 Working Voltage	220VAC	温度范围 Operating Temp.	-5℃~45℃
预处理系统 Pretreatment System	可选 Optional	适用认证 Certificate	CMC
产品尺寸 Dimension	165 mm *140 mm *78mm	机柜尺寸 Cabinet Dimension	830 mm *650mm *250mm

AGA系列激光粉尘检测仪

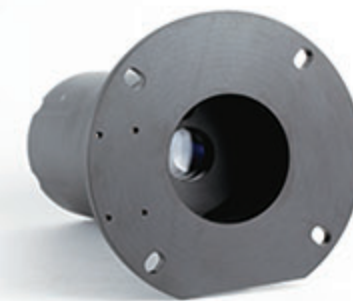
AGA SERIES LASER DUST MONITOR



概述 / INTRODUCTION

AGA系列激光在线粉尘检测仪采用激光后向散射原理检测环境中的粉尘含量。它可用于管道粉尘检测、车间粉尘检测等各类场合。可以根据客户需求实现数据上传、自动连锁等功能。

AGA series laser online dust detector adopts laser backscattering principle to detect dust content in environment. It can be used in various occasions like pipe dust detection and workshop dust detection, etc. Functions including data uploading and automatic interlock can be added according to customer's requirements.



应用 / APPLICATION

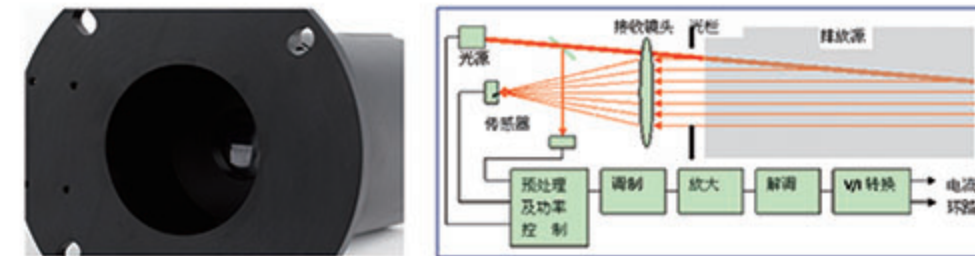


- 烟气连续分析
Continuous analysis of flue gas
- 除尘效率监控
Efficiency monitoring of dust elimination
- 饲料车间粉尘检测
Dust detection of feed workshop
- 食品车间粉尘检测
Dust detection of food workshop
- 金属加工车间粉尘检测
Dust detection of metal machine workshop
- 实验室粉尘检测
Dust detection of laboratory

功能特点 / MAIN FEATURES

- 激光后向散射原理, 精度高, 实时检测
Applied with Laser backscattering principle, highly accurate and real-time monitoring.
- 应用广泛, 可测量 $1\mu\text{m}$ ~ $100\mu\text{m}$ 大小的粉尘
Widely applied, dust measurement range from $1\mu\text{m}$ to $100\mu\text{m}$.
- 防爆型和非防爆型可选, 应用不同场合
Explosion-proof type and non-explosion-proof type are both available, which have different application. available, which have different application.
- 可配套控制器实现自动连锁控制
Able to automatic interlocking if support with controller.

激光后向散射技术
Laser backscattering technology



AGA系列激光粉尘仪采用激光后向散射测试原理完成对被测环境粉尘浓度的测定。仪器内嵌的高稳定激光信号源穿越环境照射粉尘, 被照射的粉尘将反射激光信号, 反射的信号强度与粉尘浓度成正变化, 通过特定的算法即可计算出粉尘的浓度。

AGA series laser dust monitor adopts laser backscattering principle to monitor dust concentration. The highly stable laser source embedded in instrument radiates dust, then radiated dust will reflect laser signal. Reflected signal intensity has a variation of direct proportion with dust concentration, which can be calculated by special algorithm.

产品参数 / PRODUCT PARAMETERS

产品型号 Model	AGA6050 (防爆 Explosion-proof)、AGA6000 (非防爆 Non-explosion-proof)		
量程 Measure Range	0 -100/500/1000/2000/4000 mg/m ³ (定制 Customized)		
检测原理 Principle	激光后向散射 Laser backscattering	烟道直径 Flue Diameter	0.7-5m/20m
零点漂移 Zero Drift	±2%F.S/24h	量程漂移 Span Drift	±2%F.S/24h
响应时间 Response Time	<10S (T90)	输出信号 Signal Output	4-20mA/RS485
防护等级 Ingress Protection	IP65	防爆等级 Explosion-proof Grade	Ex ib IIB T4 Gb Ex ibD 21 T130°C
工作电压 Working Voltage	24VDC	产品尺寸 Dimension	235 mm *160mm *160mm



气体分析预处理流程

GAS ANALYSIS PRETREATMENT PROCESS

■ 取样点位置的选择 / SAMPLING POINT SELECTING

- 1、应选择在能反映工艺流体性质和组成变化的灵敏点上，通常选择在大于2倍直径直管段的2分之1处。
- 2、应位于工艺压差处，构成快速循环回路的位置。
- 3、应选择样品气温度、压力、清洁度、干燥度和其他条件尽可能接近分析仪要求最适宜位置，以便样品预处理部件的数量减至最少。

1. We shall select the sensitive point with technical fluid property variation and component variation. Commonly we choose the half of the straight pipe with length more than twice diameter.

2. It shall locate at technical pressure change point to form a rapid cycle circuit.

3. We shall select the most suitable location which sample gas is almost reaching the required temperature, pressure, cleanliness, dryness, etc. so that to minimum the pretreatment parts.



■ 取样探头 / SAMPLING PROBE

- 1、直通式取样探头：适用于含尘量极微小或无粉尘的气体中取样，多用于石油化工行业。
- 2、过滤式取样探头：带有过滤器的探头，适用于含尘量较高的气体取样，探头滤芯为烧结金属或陶瓷。
- 3、减压式取样探头：是将减压阀和取样管组合成一体，将样品气体先减压再取出的探头。这种取样探头多用于高压样气的取样，防止压力过大损坏仪表。

1. Straight-through sampling probe: apply to sampling gas with no dust or low dust load. And are often used in petrochemical industry.

2. Filtering sampling probe: the probe with filter applies to sampling gas with high dust load, of which filter element is made by sintered metal or ceramic.

3. Pressure-reducing sampling probe: combined reducing valve with sampling tube, reducing the sample gas pressure first and then take sample, this probe is used to apply to sampling gas with high pressure so as to protect instrument from pressure.



气体分析预处理系统

GAS ANALYSIS PRETREATMENT SYSTEM

在线气体分析仪作为精密分析仪器，对样气的要求十分苛刻。气体分析预处理系统为了保证进入分析仪的样气适合仪表的规定条件，保证分析仪表可以正常、可靠、稳定地运行。

气体分析预处理系统是根据所分析的现场工艺条件、操作参数、分析组分来确定，不同工艺不同配置。预处理系统的部件根据现场条件可采用耐腐蚀材料（316L/聚四氟），被测样气经过取样、保温、除油、除尘、冷凝除水、增压或减压、恒流、恒压将干净、干燥、恒定的样气送至气体分析仪表。

Online gas analyzer, as a precise analysis instrument, is strictly with sample gas. Gas analysis pretreatment system can make sure the sample gas reaching its requirement and the analyzer's stable operation.

Gas analysis pretreatment system can be divided by field technical condition, operational parameters and analyzing component. Different technique gets different configuration. It can use corrosion-resistant material (316L/PTFE) according to field condition, the sample gas will be analyzed shall be sampling, insulating, degreasing, dedust, dewater, pressurization and depressurization with constant current constant voltage, then clean, dry and constant sample gas will be send to gas analyzer.

样气的传输管路 / TRANSFER LINE OF SAMPLE GAS

- 1、管材的材质和管径尺寸的选择，一般采用316不锈钢或PTFE管路，管外径以6mm为多
- 2、管接头的选用，一般选择不锈钢双卡套接头以保证连接的密闭性，特殊环境选择PTFE或塑胶接头

1.316 stainless steel and PTPE are commonly used for Pipe material. In addition, the outer diameter always is 6mm.

2.Pipe joint is generally manufactured by stainless two ferrule tube steel fitting to insure the connection leakproofness. In addition, special environment shall select PTPE or plastic.

保温和伴热 / INSULATION AND HEAT TRACING

- 1、电伴热：通过缠绕在取样管线上的电伴热带给样气伴热。
- 2、蒸汽伴热：通过取样套管中的高温蒸汽对样气进行伴热。

1.Electric heat tracing: providing heat tracing to sample gas by twining sampling pipe together.

2.Steam tracing: providing heat tracing to sample gas by the hot steam inside.

气路的切换 / GAS LINE SWITCH

- 1、标定、测试的切换：通过多通球阀切换不同的样气管路，予以选择不同测量的气源。
- 2、多点测量：通过多通球阀切换到不同的取样点，达到一台仪表可测量多点样气。

1.Calibration and test switch: switching different gas line through multiple ball-port to providing different gas.

2.Multi-point measurement: switching different sampling point through multiple ball-port, therefore one instrument can measure gas in multi-point.



样气的处理 / SAMPLE GAS HANDLING

- 1、流量调节：使用针阀、限流阀、单向阀和浮子流量计等，使样气流量达到分析仪表的要求。
- 2、压力调节：利用减压阀、安全阀和背压阀等，调节样气的压力达到系统所需要的恒定压力；负压或微正压时应加入真空泵，一般选择气动或电动真空隔膜泵和射流真空发生器。
- 3、温度的调节：一般采用螺旋管或水冷方式，将高温样气降至常温。
- 4、除污、尘：通过过滤器将样气中的冷凝水和微小颗粒物过滤排出。
- 5、除水：利用制冷器将样气温度降至露点，使样气中的气态水液化并排出。
- 6、除油和易结晶物质：通过油洗过滤装置，将样气中的油、萘、苯等物质稀释达到滤出目的。

1.Flow control: For meeting requirement of gas analyzer, gas flow shall be regulated through needle valve, flow-limiting valve, one-way valve and float flowmeter, etc.

2.Pressure control: For meeting constant pressure requirement of gas analyzer, we regulate gas pressure shall be regulated through reducing valve, safety valve and backpressure valve, etc. Vacuum pump shall be added in conditions like negative pressure or micro-positive pressure. In addition, air-operated or power-driven vacuum diaphragm pump and vacuum ejector are always our choice.

3.Temperature control: Normally selecting spiral tube or water-cooling way to reducing the high temperature of sample gas to normal temperature.

4.Pollution cleaning and dedusting: filtrate condensate water and small particulate matter of sample gas by filter.

5.Dehydration: reducing the sample gas temperature to dew-point by refrigerator, then liquidating and discharging the vaporous water of it.

6.Oil and crystallizable substance remove: For meeting requirement of gas analyzer, sample gas shall dilute oil, naphthalene, benzene, etc.

样气的排放 / SAMPLE GAS DISCHARGE

- 1、有毒气体的排放：对人体有害的毒气，可采用高位高空排放或返回取样管道、回收装置等。
- 2、可燃危险气体的排放：使用排火炬，或阻火装置高位排放。

1.Toxic gas discharge: for harmful toxic gas, it can adopt high position discharge or return sampling pipe, recovery device, etc.

2.Combustible danger gas discharge: discharge it by exhaust torch or fire retardance device on high position.



气体分析小屋 GAS ANALYSIS CABIN



■ 结构说明 / STRUCTURE SPECIFICATION

分析小屋为TT型钢焊接框架式结构，双层墙夹层设计。机械强度可满足起吊、拖动、运输及支撑墙面安装设备的要求，小屋地板为4.5mm厚花纹钢板，表面采用环氧树脂材料处理。底座选用140mm厚槽钢，成脊肋结构，地基地脚螺栓紧固。外墙采用2mm厚钢板，表面喷塑颜色为7035灰色；内墙和天花板采用2mm厚不锈钢钢板。外墙间及屋顶填充有阻燃保温材料（80K岩棉厚70mm）。

小屋设有4个防爆接线箱，分别用于测量信号、报警信号、UPS电源和动力电源的连接。小屋内有防爆荧光灯、防爆应急灯、防爆排风扇，可选配防爆空调或蒸汽供暖系统，可根据需要选装工作台。

小屋设计有自动换风系统，系统正常工作时自动换风系统通过外接呼吸风(需用户外接呼吸风管)，经过流量计给小屋内输送小量的呼吸风，将屋内空气通过阻火器排出屋外，保持小屋内空气清新，使屋内产生微正压；当小屋内部有气体泄漏时，安装在屋内的气体检测报警器会发出报警信号，控制电磁阀向屋内通入大量新鲜的呼吸风，并控制换风器上的风机高速旋转，加速屋内空气对流，同时报警灯和电铃等发出报警信号，达到安全警示目的。

Gas analysis cabin adopted TT type welding structure and design of jacketed wall. The mechanical strength can meet the demand of lifting, dragging, transportation and installation on the wall. The cabin floor is making by 4.5mm riffled plate, which surface adopt epoxy resin technique, the pedestal adopt 140mm box iron with ridge-rib structure, and the foundation is fixed by foot bolt. In addition, with surface spraying 7035 gray, the outer wall adopts 2mm steel plate, and the interior wall and ceiling adopt 2mm stainless steel plate. Moreover, both outer wall and roof are filling with the inflaming retarding and insulation material (80K rock wool with thickness 70mm).

It is equipped with four sets of explosion-proof connection box, which are always to connect measure signal, alarm signal, UPS power and motive power. The inside of cabin is equipped with explosion-proof fluorescent lamp, emergency lamp and exhaust fan. Moreover, explosion-proof air-conditioner, steam heating system or workbench are optional.

Normally, the automatic ventilation system designed in cabin, will transfer little fresh air to cabin through flow meter by external air tube to keep fresh air inside the cabin by producing micro-positive pressure to discharge air through back-fire relief valve; When gas leakage happen inside the cabin, the gas detector inside will send out the alarm signal. Then control solenoid valve will transfer a lot of fresh air into cabin and command the fan running with high-speed to accelerate cross-ventilation. Meanwhile, warning light and bell will send out alarm signal to reach the goal of safety warning.

■ 概述 / INTRODUCTION

分析小屋能满足在线分析仪表成套系统所要求的特殊环境条件，如温度、湿度、防尘防爆等，可广泛用于石油、炼化、冶金、轻工、医药、生化等行业具有可燃性气体的危险场所。分析小屋的结构尺寸可根据承载分析仪表的台数和客户的要求而定制。分析小屋采用钢板制成，结构承载力为250Kg/m²，屋顶承受力为500Kg/m²。

Gas analysis cabin can meet the special environmental requirement of online gas analyzer system, such as temperature, humidity, dustproof and explosion-proof, etc. it can widely applied to various danger place with inflammable gas, such as petroleum, refining and chemical, metallurgy, light industry, medical, biochemistry and so on. The dimension of gas analysis cabin can customize by the quantity of analyzers and customers' demand. With 250Kg/m² carrying capacity and 500Kg/m² capacity of roof, it is making by steel plate.

气体预处理部件

PARTS OF GAS PRETREATMENT

■ 采样探头 / SAMPLING PROBE



采用316L不锈钢材料，耐高温、耐腐蚀
 探头滤芯可选陶瓷或金属烧结材料，适合不同工艺应用
 探头过滤器为卡箍式结构，方便拆卸和清洗滤芯
 采用G1/2气动球阀，通径大，不易堵塞
 接口尺寸
 探杆Φ16×18mm（定制）
 取样出口G1/4内螺纹或Φ6mm卡套接头
 反吹气源接口G1/2内螺纹
 气动阀切换气源接口Φ6mm卡套接头
 排污口Φ6mm卡套接头
 安装法兰DN40/PN2.0

Adopt 316L stainless steel with heat resistance and corrosion-resistant.
 For different technique, probe filter can adopt ceramic or sintered metal.
 With clamp-on design, probe filter is easy to disassembling and cleaning.
 Adopt G1/2 pneumatic ball valve with big diameter, no blocking.
 Connector size
 Probing rods Φ16×18mm (customized)
 Sample exit G1/4 internal thread or Φ6mm ferrule fitting
 Back flushing source gas connector G1/2 internal thread
 Pneumatic valve switch connector Φ6mm ferrule fitting
 Sewage draining exit Φ6mm ferrule fitting
 Flange installation DN40/PN2.0

■ 过滤器 / FILTER



采用316L不锈钢材料，耐高温、耐腐蚀
 分体式结构，可更换滤芯及清洗
 采用玻璃纤维滤芯，10μ滤孔
 下方设计有排污口，可利用反吹排除污物
 接口尺寸：
 进气口Φ6mm卡套接头 出气口Φ6mm卡套接头
 排污口Φ6mm卡套接头

Adopt 316L stainless steel with heat resistance and corrosion-resistant.
 Split type design, able to change filter and clean.
 Adopt fiberglass filter, 10 μ filtration pore.
 Designed with sewage draining exit below, able to draining sewage by back flushing.
 Connector size
 Air inlet Φ6mm ferrule fitting
 Air outlet Φ6mm ferrule fitting
 Sewage draining exit Φ6mm ferrule fitting

■ 冷凝器 / CONDENSER



利用压缩气源就可产生低温制冷
 通过调节气源压力，可改变制冷温度
 316L不锈钢材料、可适应大部分腐蚀性气体
 接口尺寸：
 进气口Φ6mm卡套接头 出气口Φ6mm卡套接头
 排液口Φ6mm卡套接头 气源口Φ6mm卡套接头
 排气口Φ6mm卡套接头

Adopt compressing gas to produce subzero refrigeration.
 Able to change cryogenic temperature by adjust bleed pressure.
 316L stainless steel is able to adapt to most of the corrosive gas.
 Connector size
 Air inlet Φ6mm ferrule fitting Air outlet Φ6mm ferrule fitting
 Drain connection Φ6mm ferrule fitting Gas source port Φ6mm ferrule fitting
 Exhaust port Φ6mm ferrule fitting

■ 电动隔膜真空泵 / POWER-DRIVEN VACUUM DIAPHRAGM PUMP



FXY ZKB 002

- 无污染转移, 介质不污染
- 100%免维护
- 运行顺畅, 安装简易
- 除了极少数情况外, 该泵能在任何位置安装
- 接口尺寸
- 进气口Φ6mm卡套接头
- 出气口Φ6mm卡套接头
- 220VAC或24VDC (供电电压可选)

Non-pollution transfer can protect the medium from pollution.

100% maintenance-free.

Smooth operation, simple installation.

This pump can be installed at anywhere except a very few situations.

Connector size

Air inlet Φ6mm ferrule fitting

Air outlet Φ6mm ferrule fitting

220VAC or 24VDC (optional)

■ 气动隔膜真空泵 / AIR-OPERATED VACUUM DIAPHRAGM PUMP



FXY GLQ 010

- 使用压缩空气驱动, 可输送强腐蚀性气体
- 即使在非常潮湿或易爆的恶劣环境, 也可以保证最大的安全可靠
- 符合ATEX防爆等级
- 接口尺寸
- 进气口G1/8"内螺纹
- 出气口G1/8"内螺纹
- 气源接口G1/8"内螺纹

Able to transfer strong corrosive gas by compressed air operation.

Keep safe and stable even there is very humid or inflammable environment.

Accord with ATEX explosion-proof grade.

Connector size

Air inlet G1/8" Internal thread

Air outlet G1/8" Internal thread

Source gas connector G1/8" Internal thread



典型工艺应用 TYPICAL APPLICATIONS

南京艾伊科技一直专注于安全、环保领域的气体、粉尘过程监控技术应用与研发。经过多年的发展, 过程监控系统已成熟应用到钢铁、冶炼、医药、食品等各行业, 针对不同工艺点均有完善的解决方案。

Nanjing AIYI Technologies Co., Ltd. remains dedicated to technology application and research of gas and dust monitoring technology in safety and environmental protection field. With years of development, our real-time monitoring system has maturely applied to steel industry, smelting industry, pharmaceuticals industry and food industry, etc. We can offer reliable solutions according to requirements of different technique.

烟气连续在线分析系统

CEMS

系统型号：AGA5000



■ 工艺介绍 / TECHNOLOGY INTRODUCTION

烟气连续在线分析系统（CEMS）指对大气污染源排放的气态污染物和颗粒物进行浓度和排放总量连续监测并的装置。CEMS由烟气温度检测、烟气流量检测、烟气压力检测、烟气粉尘检测、烟气浓度分析、预处理系统和数据采集与通讯系统组成。烟气粉尘主要由激光后向散射原理检测，烟气中SO₂、NO主要由NDIR红外原理检测。

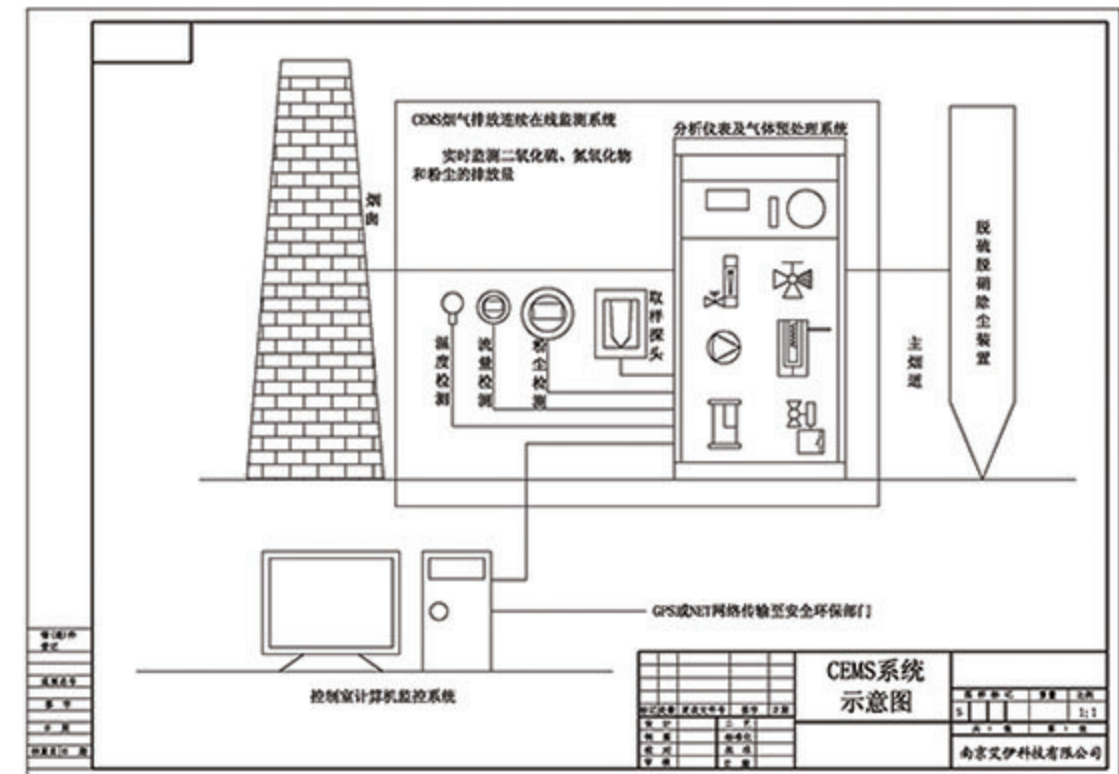
CEMS refers to equipment that continually monitors concentration and emission of gaseous pollutants and particulate matters discharged by air pollution source. It is composed of flue gas temperature detection, flue gas dust detection, flue gas concentration analysis, pretreatment system and data collection and communication system. It mainly adopts laser backscattering principle to detect flue gas dust and NDIR to detect SO₂ and NO in flue gas.

■ 系统功能 / SYSTEM FUNCTIONS

- 1、在线检测SO₂、NO_X、O₂等气体浓度、烟道粉尘浓度，监测温度、压力、流速。
- 2、样气预处理系统和采样探头反吹系统，有效去除水分、油性颗粒等干扰因素。
- 3、实时数据、实时曲线，4-20mA/RS485等标准输出信号，支持数据上传。
- 4、耐高温设计，可检测1200℃高温条件下的样气。

1. Online analysis gas concentration including SO₂, NO_X and O₂, etc., and flue dust concentration, monitor temperature, pressure and flow velocity.
2. Sample gas pretreatment system and sampling probe back flushing system; effectively remove interference factors such as moisture and oil particles.
3. Real-time data, real-time curve, 4-20mA/RS485 standard output signal, data uploading supported .
4. Heat resistance design, able to measure sample gas under a condition of 1200℃.

■ 系统设计 / SYSTEM DESIGN



离心机、反应釜氧气分析系统

OXYGEN ANALYSIS SYSTEM OF CENTRIFUGE
AND REACTION KETTLE

系统型号：AGP200



■ 工艺介绍 / TECHNOLOGY INTRODUCTION

反应釜、离心机作为生产设备，在医药、农药行业得到了广泛应用。由于这些行业所应用的场合、工艺、介质的特殊性，投料多为易燃易爆物料，在离心机、反应釜运行中，极易起火、爆炸，需要对内腔进行氧含量进行控制，防止危险发生。

目前常见解决措施为充氮置换或加装简单氧含量分析仪。由于行业特殊性，离心机、反应釜所投物料多为苯类、醇类、脂类等有机溶剂，极易腐蚀氧传感器，导致仪表无法正常工作，需要特殊定制预处理系统。

As production equipments, reaction kettle and centrifuge are widely used in pharmaceuticals industry and pesticide industry. For the specificity of occasions, technologies and mediums applied in these industries, feeding materials are always inflammable and explosive material, which are easily on fire and exploded during the operation of reaction kettle and centrifuge. Therefore oxygen content shall be controlled in inner cavity to prevent risk occurrence.

Presently, normal solution is nitrogen charge or installing simple oxygen content analyzer. For the specificity of industries, feeding materials are always organic solvent like benzene, alcohol and lipid, which will corrode sensor easily and result in not working of the instrument. Pretreatment system shall be customized specially.

■ 系统功能 / SYSTEM FUNCTIONS

- 1、选用AG系列电化学式氧气分析仪，量程0~25%VOL，报警值可自由设定。
- 2、根据现场工艺参数设计定制化的预处理系统，采用洗气、冷凝、过滤、干燥等措施去除水、杂质、有机溶剂等对传感器的影响。
- 3、配套电磁阀、交流接触器、声光报警器等联锁装置，当氧气浓度超过预设报警值时，可实现报警提醒、自动充氮置换或停机保护等功能。
- 4、具有4-20mA/RS485等标准输出信号，可兼容各类PLC/DCS系统。

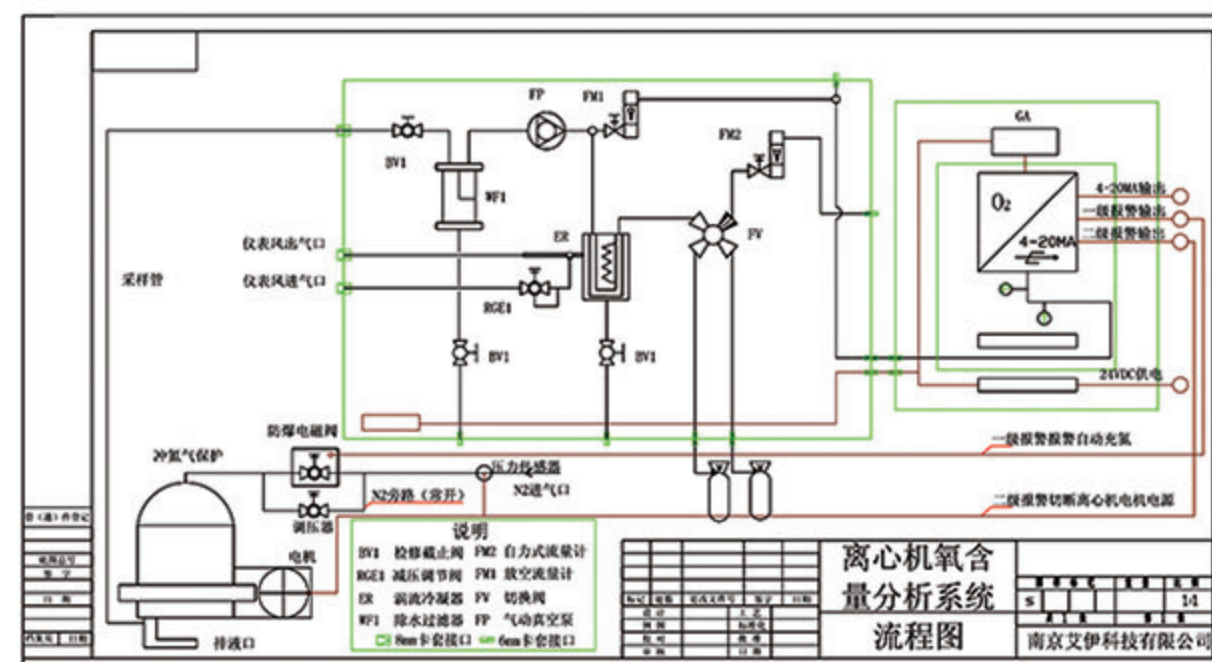
1.Using AG series electrochemical oxygen analyzer, measurement range shall from 0 to 25%VOL, the programmed alarm value is modifiable.

2.The pretreatment system, customized design by field technical parameters, taking steps like air-washing, condensation, filtering, drying, etc. to Eliminating the influence of moisture, impurity and organic solvent, etc.

3.Compatible to automatic interlocker such as solenoid valve, A.C. contactor, audible and visual alarm, etc. Once oxygen concentration exceeds the programmed alarm value, functions like alert, automatic nitrogen filling or stop protection will work.

4.With standard 4-20mA/RS485 output signals, and compatible to various PLC/DCS system.

■ 系统设计 / SYSTEM DESIGN



实验室、化验室气体分析

GAS ANALYSIS IN LABORATORY

系统型号：AGA1000



■ 工艺介绍 / TECHNOLOGY INTRODUCTION

化学实验室、分析室是提供化学实验条件、进行科学研究及成分分析的重要场所。根据不同的要求，常见实验室需要分析的气体有CO、CO₂、SO₂、CH₄、O₂等。

常见实验室气体分析设备根据不同的气体，主要有红外气体分析仪、电化学气体分析仪和顺磁气体分析仪等。相比于工业现场，实验室样气通常较为洁净，可选用分析仪表直接检测。如果样气中含有水汽、杂质等，则需要加装预处理装置。

Chemical lab is an important place to providing experimental conditions and accomplishing chemical experiment and component analysis. According to different requirement, common measuring gases in laboratory including CO, CO₂, SO₂, CH₄, O₂, etc.

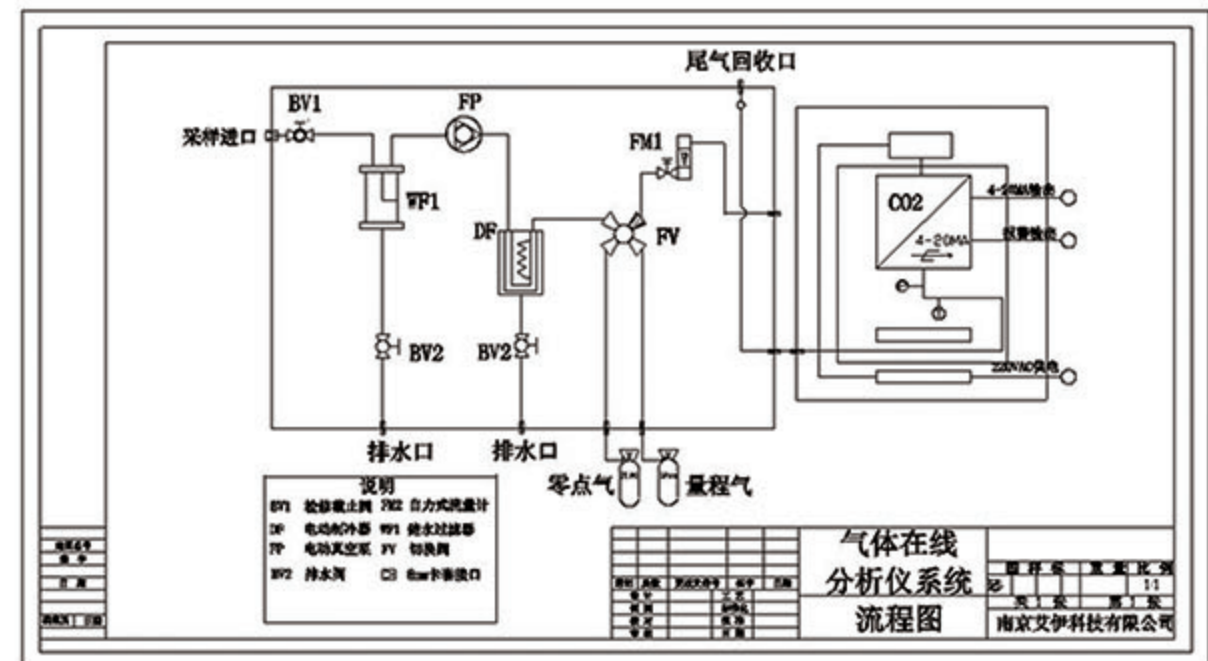
Normal laboratory gas analyzer is classified by gas type as infrared gas analyzer, electrochemical gas analyzer and Paramagnetic gas analyzer, etc. Compared with industrial site, we can directly measure gas by analyzer because laboratory sample gas always presents more clean. If there are moisture and impurities, the pretreatment device shall be necessary.

■ 系统功能 / SYSTEM FUNCTIONS

- 1、可根据实验要求分析CO、CO₂、SO₂、CH₄、O₂等气体的ppm或vol含量。
- 2、根据样气情况可选配预处理系统，保证分析的精确性。
- 3、多功能显示界面，浓度变化波形显示。
- 4、19英寸标准机箱，可匹配各类机箱。
- 5、具有4-20mA/RS485等标准输出信号，可兼容各类PLC/DCS系统。

- 1、Able to analyze the content of CO, CO₂, SO₂, CH₄, O₂, etc. in ppm or vol by experiment requirement.
- 2、Compatible to pretreatment device according to sample gas to insure the analysis accuracy.
- 3、Multifunctional display interface, the concentration change is displayed by waveform.
- 4、19 inches standard box, able to match with various boxes.
- 5、Signal like 4-20mA/RS485, etc. is available here, and compatible to PLC/DCS system.

■ 系统设计 / SYSTEM DESIGN



车间粉尘在线检测系统

ONLINE WORKSHOP DUST MONITORING SYSTEM

系统型号：AGA6050



■ 工艺介绍 / TECHNOLOGY INTRODUCTION

粉尘在爆炸极限范围内，遇到热源（明火或温度）会产生粉尘爆炸，具有极强的破坏力。常见易爆粉尘有面粉、金属粉、饲料粉等，涉及企业多为面粉厂、糖厂、纺织厂、饲料厂、塑料厂、金属加工厂及粮库。粉尘涉爆企业需要实时监测生产车间内粉尘含量，超过报警值时可以报警提醒或自动排风。

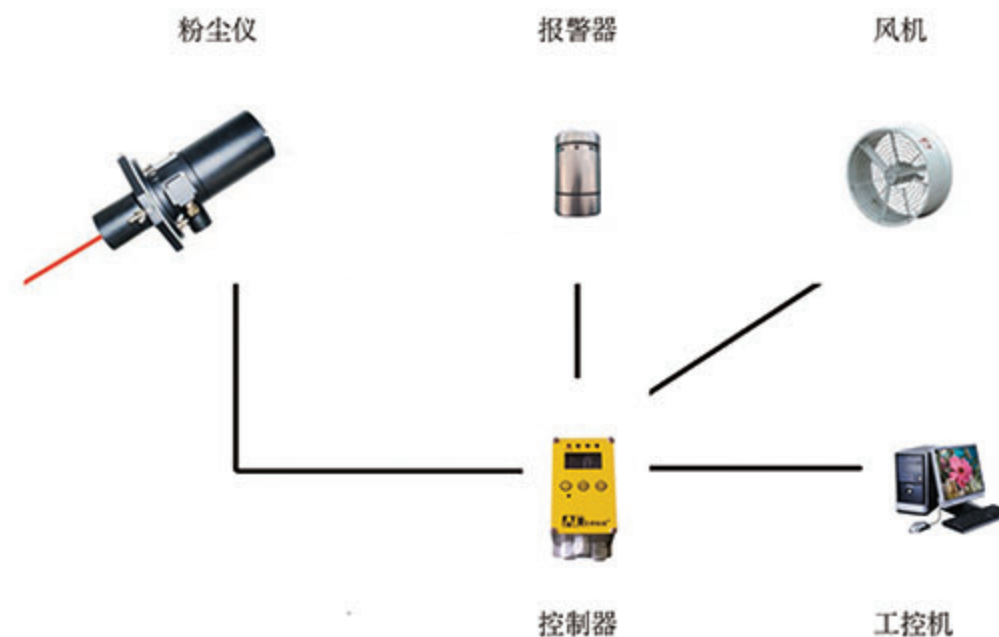
Once dust reaches its explosion limit, explosion will occur together with highly destructive power if exposed to heat source (open fire or temperature). Normal explosive dust includes flour, metal powder, feed meal and so on. Mainly involved enterprises are coal mine, flour mill, sugar refinery, textile mill, feed mill, plastic processing plant, metal processing plant, grain depot, etc. Explosion involving enterprises shall real-time monitor dust content in workshop. Alarm alerting or automatic exhausting can be realized once beyond alarm value.

■ 系统功能 / SYSTEM FUNCTIONS

- 1、选用AGA6050型防爆激光粉尘仪，量程选择0-4000mg/m³（量程依粉尘爆炸下限确定）。
- 2、液晶显示控制器，可实时显示现场粉尘浓度值，可实现单点显示、多点集中监控等。
- 3、可配套风机、声光报警器等，当粉尘浓度超标时，实现自动报警提醒、自动排风等功能。
- 4、具有4-20mA/RS485等标准输出信号，可兼容各类PLC/DCS系统。
- 5、配备吹扫系统，免维护。

1. Reference to AGA6050 explosion-proof laser dust monitor, measure range can be customized from 0 to 4000mg/m³ (measuring range should be based on the lower explosive limit of dust).
2. LCD screen can real-time display dust concentration on site. Single-point display and multi-points centralized monitoring can be realized.
3. Fan, audible and visual alarm can be equipped. Real-time alarm alerting and automatic exhausting can be realized once beyond dust concentration value.
4. RS485/4-20mA standard signal output, compatible to various PLC/DCS system.
5. Purge system is equipped, maintenance free.

■ 系统设计 / SYSTEM DESIGN



窑炉气体在线检测系统

ONLINE INDUSTRIAL STOVES

GAS ANALYSIS SYSTEM

系统型号：AGA1000



■ 系统功能 / SYSTEM FUNCTIONS

- 1、在线检测O₂、CO、CO₂、H₂、CH₄等气体浓度。
- 2、样气的预处理系统和采样探头的反吹系统。对样气进行去除焦油、除杂质、除水分、降温、恒压、干燥等处理。
- 3、实时数据监测、实时曲线显示、实时数据存储查询，标准4-20mA（可选RS232、RS485）信号输出，支持数据上传DCS等。

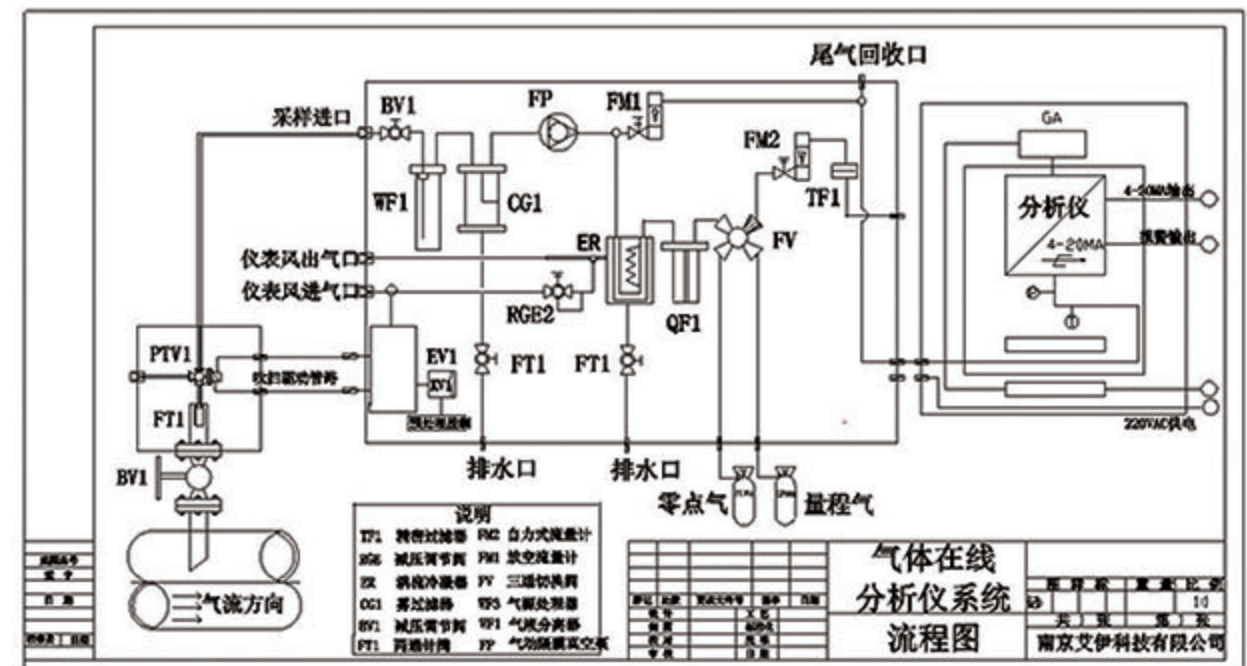
1. Online analysis the gas concentration of O₂, CO, CO₂, H₂, CH₄ etc.
2. Sample gas pretreatment system and blowback system of the sampling probe.
3. Real-time data monitoring, curve display and data query. Standard 4-20mA output signal (RS232, RS485), and is supportable to upload data to DCS etc.

■ 工艺介绍 / TECHNOLOGY INTRODUCTION

该气体分析系统广泛用于：1.冶炼制气行业——焦炉、高炉、转炉、电炉、球化退火炉、水泥窑等窑炉气体的分析。2.石油化工行业——裂解、催化、合成装置中工艺气体的检测与尾气的检测。主要检测工艺过程中O₂、CO、CO₂、H₂、CH₄的含量，实时反映炉窑的燃烧质量，防止O₂含量超标，防止爆炸事故的发生。

The gas detecting system is widely applied in: 1, smelt & gas making industry—industrial stoves gas analysis of coke oven, blast furnace, converter, electric furnace, spheroidizing annealing oven, cement kiln etc. 2, petrochemical industry—detection of the process gas and the waste gas in the equipment of splitting decomposition, catalysis, and synthesis. It mainly detects the content of O₂, CO, CO₂, H₂, and CH₄ in process so as to reflect the burning quality and prevent the explosion due to exceeding O₂.

■ 系统设计 / SYSTEM DESIGN



煤气在线分析系统

ONLINE COAL GAS ANALYSIS SYSTEM

系统型号：AGA1000D



■ 工艺介绍 / TECHNOLOGY INTRODUCTION

半水煤气是通过水蒸气和空气混合形成气化剂后流经炽热的固定燃烧床生成的。空气中所含的氧气、水蒸气与燃料中的碳反应，生成了共含有CO、CO₂、H₂、CH₄、N₂等成分的半水煤气。

半水煤气分析仪主要针对样气中的O₂、CO、H₂等气体进行在线分析，一方面是保证半水煤气的安全性（O₂），另一方面是获取样气中原料气（CO、H₂）所占比例。但因为气体组分多，焦油、粉尘、水汽含量大，预处理复杂等原因，使其成为了在线分析领域的一个难题。

Semi-water gas is a mixture of CO, CO₂, H₂, CH₄, N₂ obtained by passing a mixture of air and steam continuously through fixed combustion bed.

Semi-water gas analyzer is specialized to online analysis the gas including O₂, CO, H₂ in sample gas. On the one hand, it can make sure the safety of semi-water gas; on the other hand, it can obtain the proportion of feed gas including O₂, H₂ in sample gas. However, the reason, including but not limited to there is many gas component, tar, dust and moisture, and the complicated pretreatment, make it to be a challenge in online analysis filed.

■ 系统功能 / SYSTEM FUNCTIONS

- 1、定制预处理，可有效除掉半水煤气中的焦油、粉尘、杂质、水汽等。
- 2、分析仪检测精度高，响应时间短，偏移量小，可长期稳定运行。
- 3、模块化设计、维护方便、成本低。
- 4、安装便捷、厂家售后、一年质保、终身维护。

1. Customized pretreatment, it is able to remove the tar, dust, moisture and other impurities.
2. More accurate, less response time, offset, and with long-term stable operation.
3. Modular design, Maintenance friendly.
4. Easy Installation, after-sales service by manufacturer directly, one-year quality guarantee and Lifetime Maintenance.

■ 系统设计 / SYSTEM DESIGN

