

CAVALLO
卡瓦诺



创新
INNOVATION



智能
INTELLIGENT



低氮
LOW NOx



高效
EFFICIENT



安全
SAFETY

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卡瓦诺·中国总部

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超低氮铸铝全冷凝热水锅炉

ULTRA-LOW NOx NITROGEN CAST ALUMINUM
FULLY CONDENSING HOT WATER BOILER

中意合资·国际标准
SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

▶ CVL-

超低氮铸铝全冷凝热水锅炉 PRODUCT SERIES

SINO-ITALIAN JOINT VENTURE
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超低NOx排放, 改善空气质量, 创造美好环境。
高效率回收烟气余热, 节约燃气使用量, 省气节能。
Ultra-low NOx emissions, improve air quality and create better environment.
Flue gas efficient recovery, natural gas saving.

超低氮铸铝全冷凝热水锅炉

ULTRA-LOW NOX NITROGEN CAST ALUMINUM
FULLY CONDENSING HOT WATER BOILER

锅炉概述 / overview

Cavallo卡瓦诺超低氮铸铝全冷凝热水锅炉为最新推出的一款热水锅炉, 采用先进的深度冷凝全预混技术, 氮氧化物排放低于 $30\text{mg}/\text{m}^3$; 内置迪亚泰克换热器, 换热热效率最高可达109%; 具有耐腐蚀, 体积小等特点。配置SIEMENS西门子锅炉触摸控制系统和燃烧控制系统, 锅炉运行高效稳定、安全, 操作便捷。外观设计紧凑, 规格尺寸小, 节省占地面积。该产品适用于卫生热水、采暖、工业用水加热的任何场所及高层楼宇供暖和卫生热水。

The Cavallo Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler is the latest hot water boiler. It adopts advanced condensing premix technology, and its nox emission is lower than $30\text{mg}/\text{m}^3$. Built-in Dutch dejatech heat exchanger, heat transfer efficiency can be up to 109%; With corrosion resistance, small size and other characteristics. Equipped with SIEMENS boiler touch control system and combustion control system, the boiler runs efficiently, stably, safely and conveniently. Compact design, small size, saving space. This product is suitable for sanitary hot water, heating, industrial water heating any place and high-rise buildings heating and sanitary hot water.

核心技术优势 / Core technical advantages



最大热效率 109%
Maximun thermal efficiency
is 109%



排烟温度 35°C
Flue Gas temperature 35°C



超强静音 40分贝
Super mute 40 decibels



NOx $<30\text{mg}/\text{m}^3$



超长使用寿命 30年
Extend the service life of 30 years



进口品牌硅镁铝换热器,
换热率109%
Imported brand silicon magnesium
aluminum heat exchanger, heat
exchange rate 109%

应用领域

AREAS OF APPLICATION

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

该款锅炉适用于医院、酒店餐饮、学校、商务写字楼、政府单位、住宅小区等有卫生热水及采暖需求的场所，也可应用于工业用水加热的任何场所。

The boiler is suitable for hospitals, hotels, restaurants, schools, commercial office buildings, government units, residential area and places of sanitary hot water and heating demand, also can be applied to any place industrial water heating.

餐饮酒店
Restaurant
Hotel



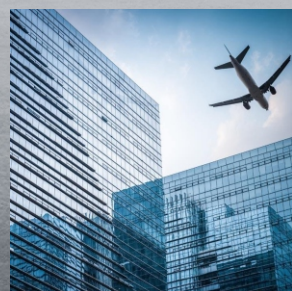
学校
School



住宅小区
Residential
quarters



商务写字楼
Business
Office



医院
Hospital



全球顶尖配件合作商

THE WORLD'S LEADING ACCESSORY SUPPLIERS

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



Cavallo卡瓦诺选择全球顶尖的锅炉配件供应商合作，提供优质、可靠的配件产品。

Cavallo has chosen to cooperate with the world's top boiler accessories suppliers to provide high quality and reliable accessories.

DEJATECH

SIEMENS

ebmpapst

AMETEK

Schneider Electric

锅炉性能特点

PERFORMANCE CHARACTERISTICS

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



超长使用寿命
Long service life



智能控制
Intelligent control



高效全冷凝换热技术
Efficient total condensation heat transfer technology



<30mg超低排放
< 30mg ultra low emission



超低氮全预混燃烧技术
Ultra-low nitrogen full premix combustion technology



超低排烟温度
Ultra-low smoketemperature



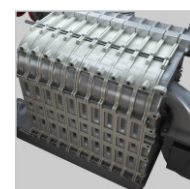
变频燃烧技术
Frequency conversion combustion technology



精致工业化外观设计
Exquisite industrial design



安全可靠的全进口配件
Safe and reliable imported accessories



高性能硅镁铝换热器

采用迪亚泰克进口品牌换热器, 换热效率高达109%, 而且具有耐腐蚀、体积小等特点。

High performance silicon magnesium aluminum heat exchanger

Imported brand heat exchanger, heat exchange efficiency up to 109%, and has the characteristics of corrosion resistance, small volume and so on.



NOx<30mg/m³超低排放标准

超低氮冷凝环保技术, <30mg/m³的氮氧化物排放指标, 远超欧盟5星级环保标准。

Nox < 30mg/m³ ultra-low emission standard

Ultra-low nitrogen condensation environmental protection technology, nitrogen oxide emissions < 30mg/m³, far beyond the European Union's 5-star environmental protection standard.



40分贝超强静音

采用EBM/AMETEK变频风机, 该风机拥有恒定的空气流动性能。极低的噪音远低于国际标准, 最低40dB。

Super quiet at 40 decibels

American EBM/AMETEK variable frequency fan is adopted, which has constant air flow performance. Extremely low noise is far below the international standard, Minimum 40dB.

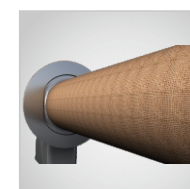


智能控制器

配置德国西门子智能控制系统, 专业的燃烧控制, 锅炉操作便捷, 运行安全、稳定、高效。

Intelligent controller

Equipped with Siemens intelligent control system, professional combustion control, convenient boiler operation, safe, stable and efficient operation.

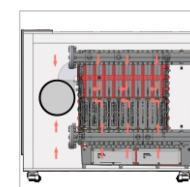


全预混燃烧头

采用卡瓦诺超低氮金属纤维全预混燃烧头, 空气与燃气精准混合, 燃烧均匀, 有效抑制NOx的生成, 实现<30mg/m³的超低NOx排放标准。

Full Premixed Burner

The use of cacallo ultra-low nitrogen metal fiber full premixed burner, air and gas precise mixing, combustion uniformity, effectively inhibit the formation of NOx, to achieve the < 30mg/m³ ultra-low NOx emission standard.



风冷空气预热系统

超低氮铸铝全冷凝热水锅炉拥有风冷空气预热系统, 通过流动空气将换热器外部余热带入风机与燃气混合, 从而减少热损失, 提高热效率。

Air preheating system

The Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler has an air cooled flue gas design, which allows the heat exchanger external waste heat to be mixed with the fan and gas through flowing air, thus reducing heat loss and improving thermal efficiency.



超强使用寿命

迪亚泰克/意大利卡瓦诺换热器, 该换热器采用硅铝合金材质, 其中硅增强了换热器中的抗腐蚀性, 从而延长使用寿命。

Super service life

Dejatech, Netherlands/Cavallo heat exchanger, Italy, the heat exchanger is made of silicon aluminum alloy, silicon enhances the corrosion resistance in the heat exchanger, thus extending the service life.



模块化设计

模块化设计, 结构简单, 占地面积小, 安装便捷。可根据不同需求, 实现多台锅炉模块化并联组合。

Modular design

Modular design, simple structure, small footprint, convenient installation. According to different requirements, the modular parallel combination of multiple boilers can be realized.

► 烟-水逆流冷凝换热技术

SMOKE-WATER COUNTERCURRENT CONDENSATION HEAT TRANSFER TECHNOLOGY

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

DEJATECH/CAVALLO换热器

超低氮铸铝全冷凝热水锅炉采用迪亚泰克/意大利卡瓦诺硅铝冷凝换热器，该换热器由硅铝合金铸造而成，其特点为换热效率高，有超强抗耐腐蚀性，可以大大延长使用寿命，而且体积小方便运输安装等特点。

Rekaert heat exchanger

The Ultra-low nitrogen cast aluminum fully condensing hot water boiler adopts dejatech from Holland/Cavallo from Italy, the heat exchanger is made of si-al alloy casting, its characteristic is high heat exchange efficiency, has the super-strong corrosion resistance, can greatly extend the service life, and the small size is convenient to transport and install and so on.

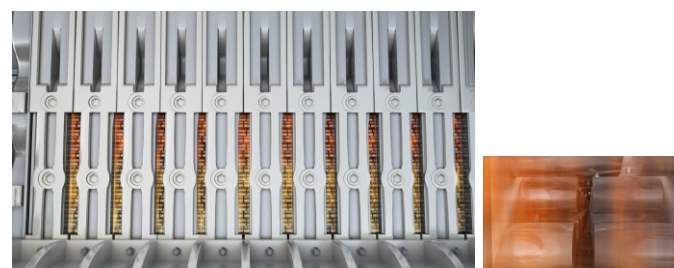


换热器工作原理

换热器是烟-水逆流换热，肋柱式导热锥滴水冷凝结构，滴水冷凝又称珠状冷凝，冷凝水在冷凝面上冷凝散热后，成珠状（水滴）离开冷凝换热面，保持后续持续冷凝换热，是冷凝的较好方式，可持续提高冷凝相变潜热回收。

Rekaert heat exchanger

Heat exchanger is smoke - water reflux heat, rib pillar type cone dripping condensed structure of thermal conductivity, water condensation is also called the bead condensation, condensation water condensation on the surface of the condensation heat, into a bead (water) leave the condensation heat transfer surface, sustaining the subsequent condensation heat transfer, is good way of condensation, sustainable improve the cooling phase change latent heat recovery.

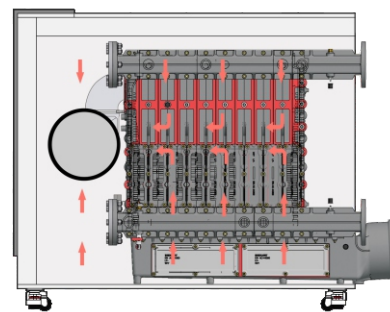


风冷空气预热系统提高热效率

超低氮铸铝全冷凝热水锅炉拥有风冷空气预热系统，空气经过滤从两侧进入外包箱体内，通过风机吸力，空气将换热器外部余热经过风管带入风机与燃气混合，从而减少热损失，提高热效率。

Air preheating system improves thermal efficiency

The Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler has the design of air-cooled flue gas. The air enters the outer box from both sides after filtration, and the residual heat from the outside of the heat exchanger passes through the air duct through the fan suction air to mix with the fan and the gas, so as to reduce the heat loss and improve the thermal efficiency.

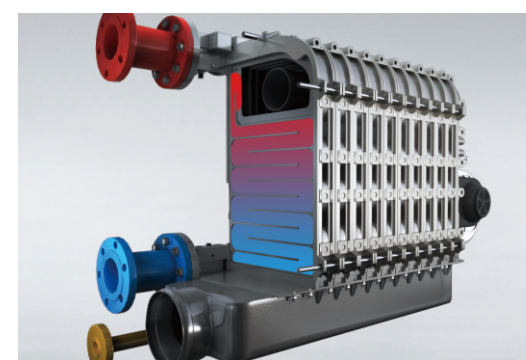


换热效率高

该换热器具有超强的导热性能，无死角多回程流道设计，均匀受热，温升速度快。冷水经换热器腔体由下而上，与烟气形成高效的对流换热。使其充分利用了烟气中的显热，和水蒸气凝结所释放的气化潜热，最大程度提高了锅炉热利用率；比普通锅炉综合热效率高30%以上。

High heat exchange efficiency

The heat exchanger has super heat conduction performance, no dead Angle multi-return runner design, uniform heat, rapid temperature rise. The cold water flows from the bottom to the top of the condenser chamber and forms an efficient convection heat transfer with the flue gas. It makes full use of the sensible heat in the flue gas and the latent heat of gasification released by steam condensation to maximize the utilization rate of boiler heat. The comprehensive thermal efficiency is more than 30% higher than ordinary boiler.



锅炉热效率最高可至109%

超低氮铸铝全冷凝热水锅炉，换热器采用硅铝合金材质，耐腐蚀，传热性能更强，换热迅速，有效提升锅炉热效率，热效率高达109%

The boiler's thermal efficiency is up to 109%

Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler, heat exchanger made of silicon aluminum alloy material, corrosion resistance, stronger infectivity, rapid heat transfer, effectively improve the thermal efficiency of the boiler, thermal efficiency up to 109%

Minimum system Inlet Water Temperature 最低系统回水温度	Thermal efficiency 热效率
30°C	109%
40°C	104%
55°C	98%
70°C	96%

► 超低氮全预混燃烧技术

ULTRA-LOW NITROGEN FULL PREMIXED COMBUSTION TECHNOLOGY

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

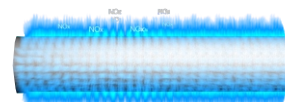
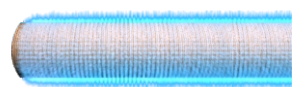
工作原理/WORKING PRINCIPLE

燃气经过电磁阀,空气经过文丘里,在风机的风压作用下,一同进入风机。风机将两种气体搅拌均匀吹入预混腔,而预混腔起到平衡风压的作用。经过以上过程,燃气与空气达到完全预混的目的。完全预混的气体,燃气分子与氧气分子接触表面积大,容易发生燃烧反应。点火时,反应速度快,燃烧更充分,燃气的化学能释放更完全;且空气过量系数低,剩余氧气量少,燃烧产生的大气污染物少,烟气体积小,排烟热损失少。

The gas passes through the solenoid valve, and the air passes through the venturi. Under the blowing action of the fan, the gas enters the fan together. The fan stirs the two gases evenly and blows them into the premix cavity, which ACTS as a wind pressure balance. After the above process, gas and air achieve the purpose of complete premix. Fully premixed gas, gas molecules and oxygen molecules contact surface area is large, easy to occur combustion reaction. When ignition occurs, the reaction speed is fast, the combustion is more sufficient, and the chemical energy of the gas is released more completely. In addition, the excess coefficient of air is low, the amount of excess oxygen is low, the atmospheric pollutants generated by combustion are low, the volume of flue gas is small, and the heat loss of exhaust smoke is low.



卡瓦诺燃烧头
CAVALLO burning head



传统燃烧头
Conventional burner

全预混燃烧头

采用卡瓦诺金属纤维燃烧头,创新圆顶设计,高达99.9%的燃烧效率,并能降低氮氧化物排放达 $30\text{mg}/\text{m}^3$ 以下,远超国际排放标准,树立行业新标杆。

Fully premixed burner

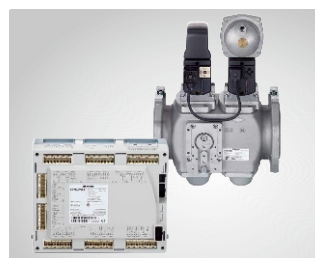
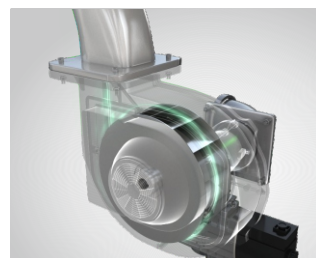
Cavallo metal fiber burner is used, innovative dome design, up to 99.9% combustion efficiency, and can reduce nitrogen oxide emissions up to $30\text{mg}/\text{m}^3$, far beyond the international emission standards, set a new benchmark in the industry.

EBM/AMETEK变频风机

超低氮铸铝全冷凝热水锅炉燃烧系统选用德国EBM/AMETEK变频风机,该风机拥有恒定的空气流动性能,极低的噪音远低于国际标准,可实现小于50dB,也能在高压条件下低噪音运行。

EBM/AMETEK Inverter Fan

The Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler adopts German EBM/AMETEK variable frequency fan, which has constant air flow performance and extremely low noise far below the international standard. It can be less than 50dB and operate under high pressure with low noise.



西门子燃烧控制及阀组

采用德国西门子燃烧控制及阀组,可提供精准的燃料空气混合比例控制,实现99.9%燃烧,确保全预混燃烧器的安全性和可靠性。

Siemens combustion control and valve assembly

The use of German Siemens combustion control and valve group, can provide accurate fuel air mixing ratio control, achieve 99.9% combustion, to ensure the safety and reliability of the full premixed burner.

► 其他核心技术

OTHER CORE TECHNOLOGIES

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



模块化设计技术

模块化设计,结构简单,安装便捷。可根据用户的不同需求,实现多台锅炉模块化并联组合,系统更节能、运行安全可靠,大幅降低锅炉运行费用,节省成本。

Modular design technique

Modular design, simple structure, convenient installation. According to the different requirements of users, the system can realize the modular parallel combination of multiple boilers, which makes the system more energy efficient, safe and reliable in operation, and greatly reduces the operating cost of boilers and saves costs.



新型外包技术

采用新型卡扣外包技术,精致工业化设计,外观紧凑,占地面积小。优质碳钢材质,盒板加工,静电喷涂,增加抗压强度,延长锅炉使用寿命。

New outsourcing technology

Adopt new clasp outsourcing technology, delicate industrial design, compact appearance, small area. High quality carbon steel material, box plate processing, electrostatic spraying, increase the compressive strength, extend the service life of the boiler.



万向承重轮设计

锅炉底部采用360度万向静音承重轮设计,可以大大提高运输、固定炉体位置的便捷性。节能人力,快速高效。

Universal bearing wheel design

The bottom of the boiler adopts the design of 360 degree universal mute bearing wheel, which can greatly improve the convenience of transporting and fixing the position of the furnace. Energy saving manpower, fast and efficient.



排烟温度 35°C

拥有先进的深度冷凝换热技术,排烟温度最低可至 35°C 。

exhaust temperature 35°C

With advanced deep condensation heat transfer technology, the smoke exhaust temperature can be as low as 35°C .



技术参数

TECHNICAL PARAMETERS

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



型号 Model		CVL-360	CVL-750	CVL-1100	CVL-1500	CVL-2200	CVL-3000	CVL-3600	CVL-4400
最大输出功率 Maximum Output power	KW	360	750	1100	1500	2200	3000	3600	4400
额定循环流量 Rated Circulating Flow	m³/h	16	30	47	60	90	120	150	180
允许运行温差范围 Allow Running Temperature Range	°C	10-35							
最大热效率 Maximum Thermal Efficiency	%	96-109							
(供/回)水温度 (Outle/Inlet) Water Temperature	°C	(50/30)/(80/60)/(95/70)							
运行压力 Operating pressure	bar	常压 / D级承压 ≤4bar (免检) Atmospheric pressure / Class D pressure ≤4bar (exempt from inspection)							
允许最高工作温度 Maximum Operating Temperature Allowed	°C	95							
排烟温度 Exhaust Temperature	°C	≤ (回水温度+5~15°C) ≤ (Return water temperature +5~15°C)							
Nox排放 NOxEmissions	mg/m³	<30							
燃料消耗量 Gas Consumption	Nm³/h	33.5	67.5	106	138	203	260	329	395
燃气压力范围 Gas Pressure range	Kpa	3-5	3-5	5-8	8-12	10-15	10-15	10-15	10-15
燃气接口 Gas interface	DN	40	40	50	50	65	65	65	65
用电总功率 Total Electric Power	KW	1.5	2	4	5	10	10	10	10
电源 The Power Supply	V/Hz	220/50	220/50	380/50	380/50	380/50	380/50	380/50	380/50
燃烧负荷范围 Combustion Load Range	%	15-100							
最大水流量 Maximum Water Flow	m³/h	29.97	60.2	94.6	120.4	180.6	240.8	301.2	365.4
本体水容积 Bulk Water Volume	L	31.5	80	90	115	330	460	610	660
进出水接口 Water Inlet And Outlet Interface	DN	65	100	100	100	200	200	200	200
冷凝水排放口 Condensate Discharge Outlet	DN	25							
排烟口 Exhaust Port	DN	Φ200	Φ250	Φ250	Φ250	Φ420	Φ420	Φ450	Φ450
外形尺寸(长*宽*高) Overall Dimensions(L*W*H)	mm	1470*720*1235	1780*880*1485	2186*980*1502	2635*1100*1502	2260*1300*2450	2750*1300*2450	3350*1300*2450	3700*1300*2450
锅炉净重 The Net Weight Of Boiler	KG	330	535	695	820	1490	1850	2100	3000

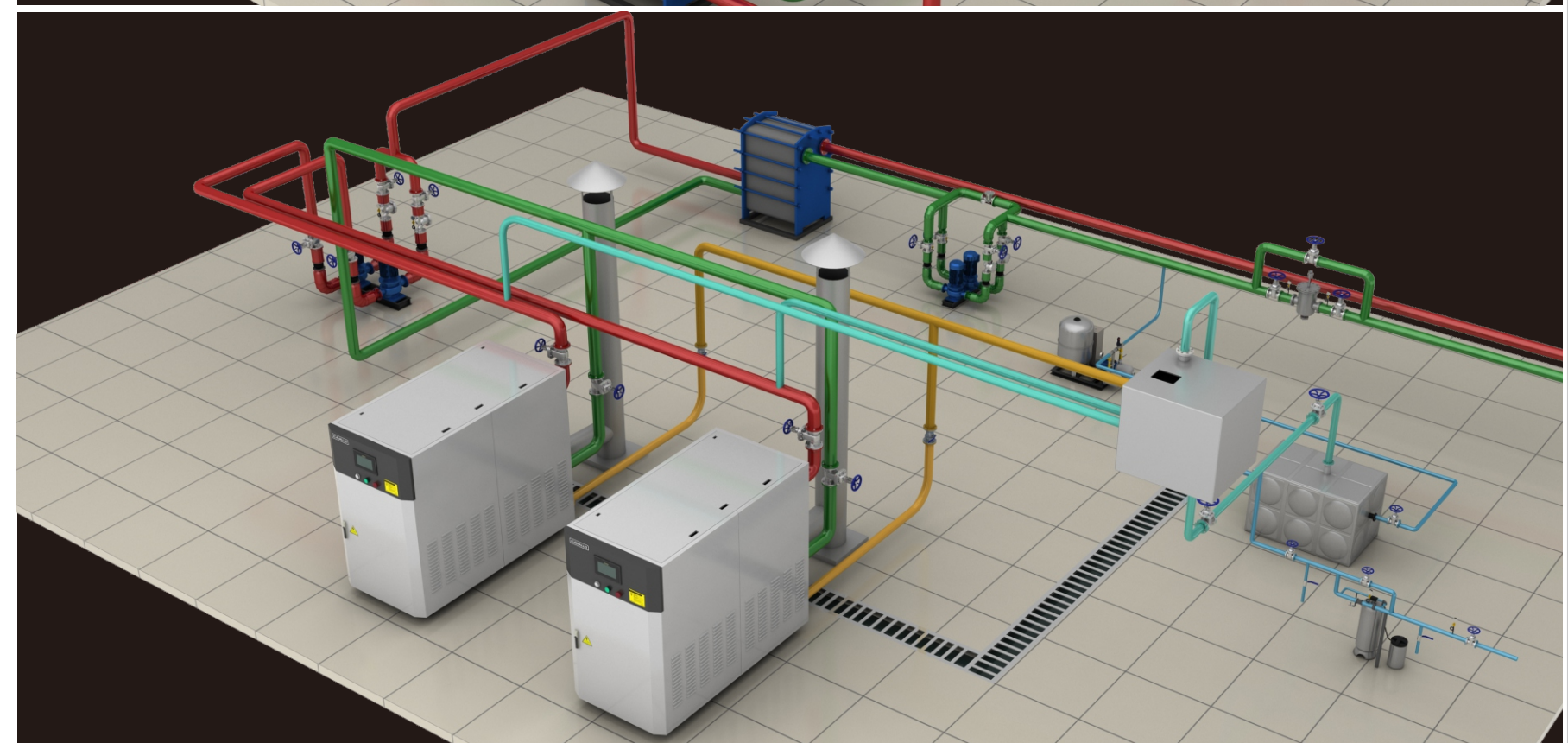
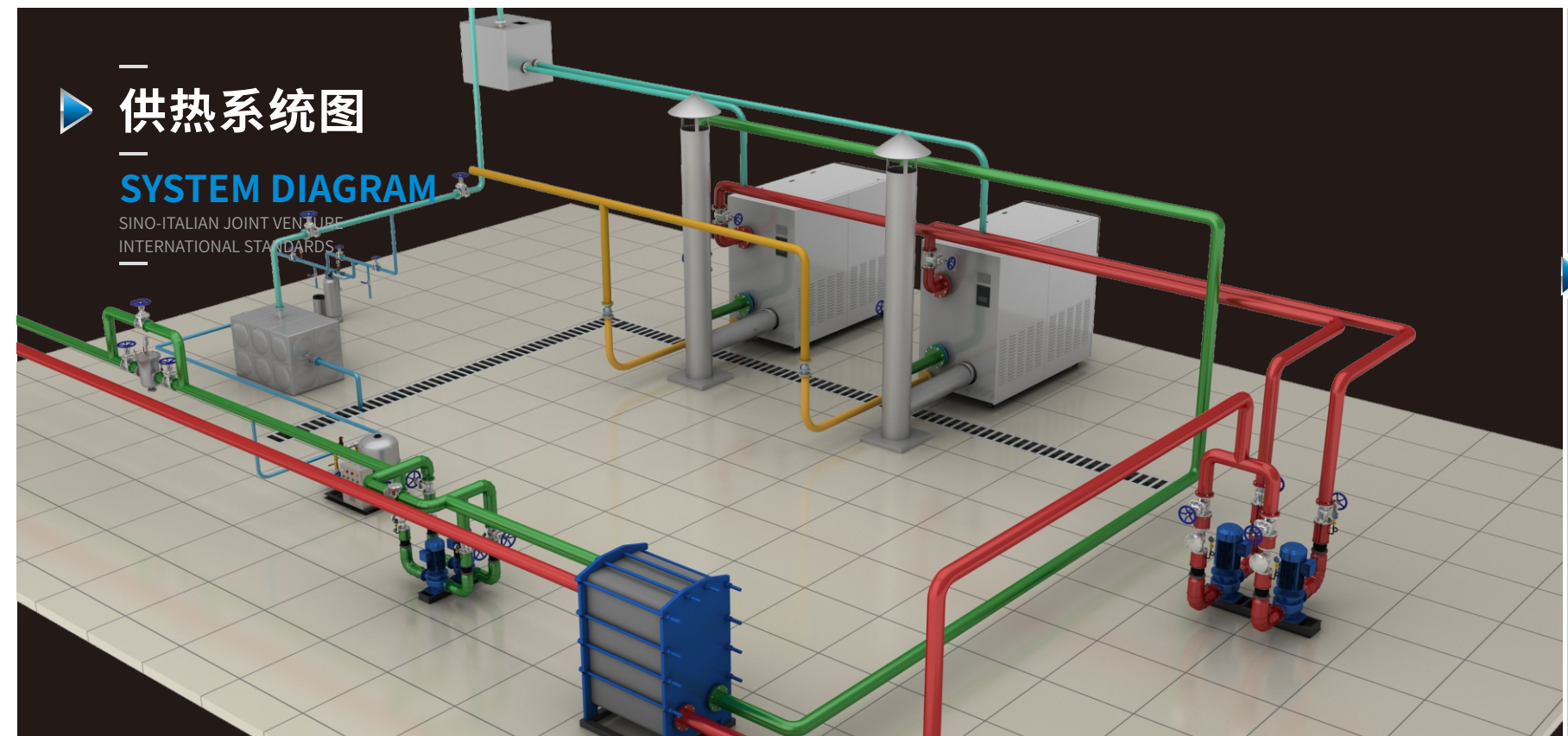
产品在不断创新和改进中,上述参数可能会发生变化,最终以图纸为准。

In the continuous innovation and improvement of the product, the above parameters may change, and the final drawings prevail.

供热系统图

SYSTEM DIAGRAM

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



超安全智能控制系统

SUPER SAFE INTELLIGENT CONTROL SYSTEM

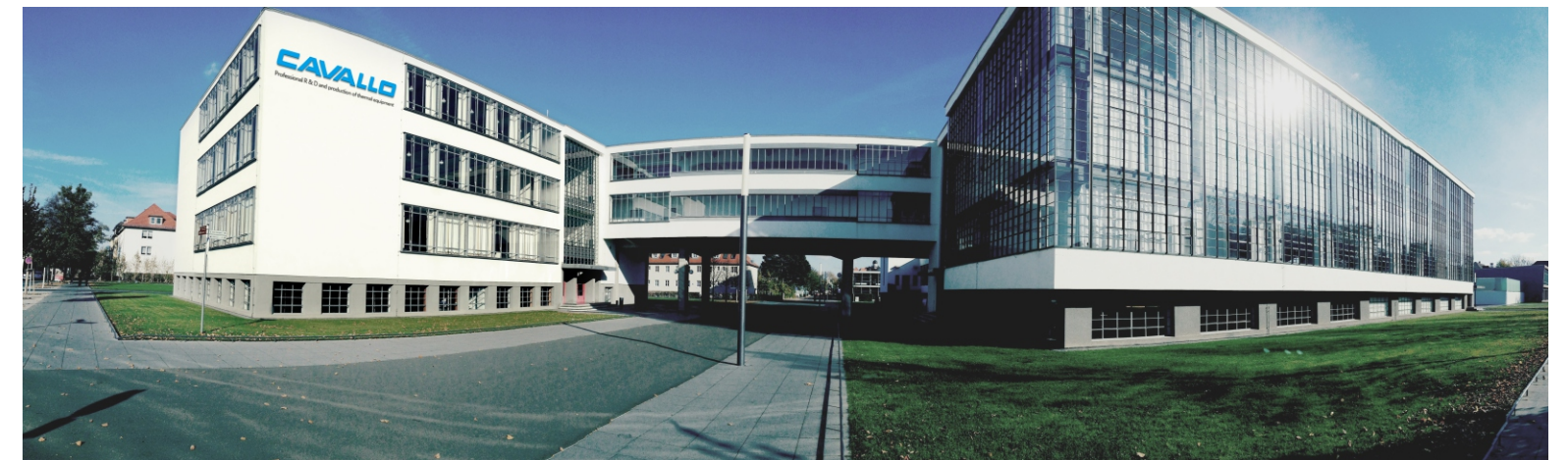
SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



卡瓦诺超低氮铸铝全冷凝热水锅炉采用德国西门子智能控制系统, 该控制系统搭载云平台, 涵盖锅炉运行现状、锅炉节能减排数据库等锅炉信息(报告)采集、传输、分析与通讯功能, 内置智能网关, 直接接入物联网系统, 可同时应用于移动端和PC端, 实现锅炉系统远程多点实时连接。

Cavallo Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler with Germany's Siemens intelligent control system, the control system with a cloud platform that covers the boiler running status information such as boiler, boiler energy conservation and emissions reduction database (report) acquisition, transmission, analysis and communication function, built-in intelligent gateway, direct access to the Internet of things system, can be applied to the mobile terminal and PC at the same time, realize real-time remote multipoint connection boiler system.

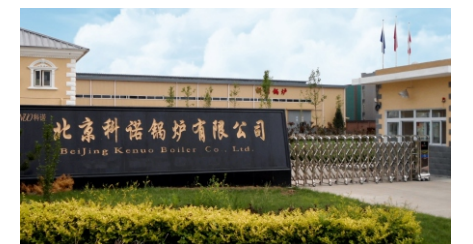
- 超低氮铸铝全冷凝热水锅炉配置西门子智能控制液晶面板
- 锅炉全自动运行, 可与智能控制平台对接, 实现远程监控
- 西门子控制系统可精准提供热曲线, 按需供热节省运行费用
- Ultra-low NOx nitrogen cast aluminum fully condensing hot water boiler is equipped with Siemens intelligent control LCD panel
- The boiler fully automatic operation, can be connected with the intelligent control platform, remote monitoring
- Siemens control system can provide accurate heat curve, on demand heating savings operating costs



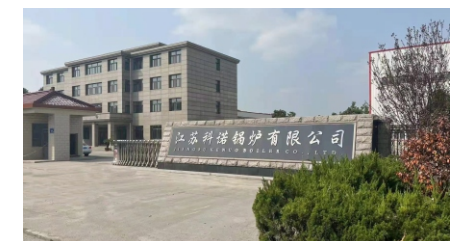
企业介绍 / COMPANY PROFILE

位于意大利维罗纳的Cavallo卡瓦诺热能设备有限公司是欧洲知名的超低氮燃烧器及锅炉研发生产企业, 凭借其在热能领域拥有的几十年技术积淀, 成熟的产品设计团队和丰富的研发经验, 产品遍布世界各地。2017年, 与北京科诺锅炉合作成立股份合资公司, 正式进入中国市场, 服务中国的广大客户。2018年又于江苏成立超低氮燃烧器装配工厂-江苏卡瓦诺热能科技有限公司。意大利Cavallo卡瓦诺拥有先进的超低氮锅炉及燃烧器生产线, 旗下产品包括一体式超低氮燃烧器、分体式超低氮燃烧器、全预混超低氮燃烧器、超低氮全冷凝热水锅炉、超低氮不锈钢全冷凝锅炉、超传导电热水机组、真空相变电热水机组等, 全系产品均可实现氮氧化物排放低于30mg。
“高效节能, 优质服务”是意大利Cavallo卡瓦诺一直以来秉承的经营理念, 依据市场需求的的不同标准, 可以灵活迅速地专业定制系列产品, 以高性能、高要求、高规格服务于全球客户。

Cavallo Thermal Energy Equipment Co., Ltd., located in Verona, Italy, is a well-known European manufacturer and manufacturer of ultra-low nitrogen burners and boilers. With its decades of technology accumulation in the field of thermal energy, the mature product design team and rich R & D experience, products all over the world. In 2017, we established a joint venture company with Beijing Kenuo Boiler to formally enter the Chinese market and serve our customers in China. In 2018, another ultra-low nitrogen burner assembly plant in Jiangsu Province - Jiangsu Cavallo Thermal Energy Technology Co., Ltd. Cavallo has advanced ultra-low nitrogen boiler and burner production lines, including Integrated ultra-low nitrogen burner, split ultra-low nitrogen burner, fully premixed ultra-low nitrogen burner, ultra low nitrogen stainless steel Fully condensing boilers, ultra-low nitrogen natural circulation condensing steam boilers, superconducting electric hot water units, etc., all products can achieve nitrogen oxide emissions of less than 30mg. "Efficient and energy-saving, high-quality service" is the business philosophy that Cavallo of Italy has always been adhering to. According to the different standards of market demand, we can customize the series of products flexibly and quickly, and serve customers all over the world with high performance, high requirements and high specifications



北京科诺锅炉有限公司



江苏科诺锅炉有限公司

经典客户 / CLASSIC CUSTOMER

