

超低氮冷凝盘管蒸汽锅炉 超低氮冷凝盘管蒸汽发生器

CAVALLO
卡瓦诺

CAVALLO ULTRA-LOW NITROGEN CONDENSATE COIL STEAM BOILER
ULTRA LOW NITROGEN CONDENSING COIL STEAM GENERATOR



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卡瓦诺·中国总部

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中意合资·国际标准
SINO-ITALIAN JOINT VENTURE
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▶ NPGS*-***-Q(LN)

超低氮冷凝盘管蒸汽锅炉 PRODUCT SERIES

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



超低氮冷凝盘管蒸汽锅炉

CAVALLO ULTRA-LOW NITROGEN CONDENSATE COIL STEAM BOILER

锅炉概述 / overview

Cavallo卡瓦诺超低氮冷凝盘管蒸汽锅炉,是科诺和卡瓦诺合资的最新产品。该产品结构采用独特持久的盘管结构,运行效率高,拥有高效的热传递与换热效率,产气快,强制循环,高速水流,水质要求低,使用寿命长。配置FGR变频燃烧系统,氮氧化物排放 $<30\text{mg}/\text{m}^3$;配置PLC智能控制器+液晶显示组合,实现锅炉自动运行。

Cavallo ultra-low nitrogen condensing coil steam boiler is the latest product jointly developed by Kenuo and Cavallo. This product adopts a unique and durable coil structure, with high operating efficiency, efficient heat transfer and exchange, fast gas production, forced circulation, high-speed water flow, low water quality requirements, and long service life. Configure FGR variable frequency combustion system, with nitrogen oxide emissions less than $30\text{mg}/\text{m}^3$; Configure a combination of PLC intelligent controller and LCD display to achieve automatic operation of the boiler.

核心优势 / core advantage



盘管换热器、再热器、节能冷凝一体机
(终身质保)
Coil heat exchanger, reheater, energy-saving
condensing integrated machine
(Lifetime warranty)



氮氧化物排放低于 $30\text{mg}/\text{m}^3$
Nitrogen oxide emissions below
 $30\text{mg}/\text{m}^3$



盘管换热结构,效率高、
产气快、寿命长
Coil heat transfer structure, high
efficiency, fast gas production, long life



2-3分钟可产出高品质蒸汽
High quality steam can be produced
in 2-3 minutes



蒸汽压力最高可达 3.82Mpa
The maximum steam pressure can
reach 3.82Mpa



创新
INNOVATION



智能
INTELLIGENT



低氮
LOW NOX



高效
EFFICIENT



安全
SAFETY

产品经过图纸鉴定审批,由特检院监检,A级(锅炉)制造,品质保证。
Cavallo为用户定义行业质量,保证体系新标准。

The product has undergone drawing appraisal and approval, and is inspected by the
Special Inspection Institute and manufactured in Class A (boiler) with quality assurance.
Cavallo defines new standards for industry quality and assurance systems for users.

► 锅炉性能特点

PERFORMANCE CHARACTERISTICS

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产气快, 2-3分钟可达工作状态
Fast gas production, 2-3 minutes to reach the working state



盘管结构, 效率高、产气快、寿命长。
Coil structure, high efficiency, fast gas production, longevityA long life.



蒸汽品质高, 蒸汽干燥度达99%
High steam quality, steam drying degree of 99%



超低氮变频比例调节燃烧技术
Ultra-low nitrogen frequency proportional control combustion technology



体积小, 占地面积小, 使用方便
Small size, small footprint, easy to use



热效率最高可达102%
Thermal efficiency up to 102%



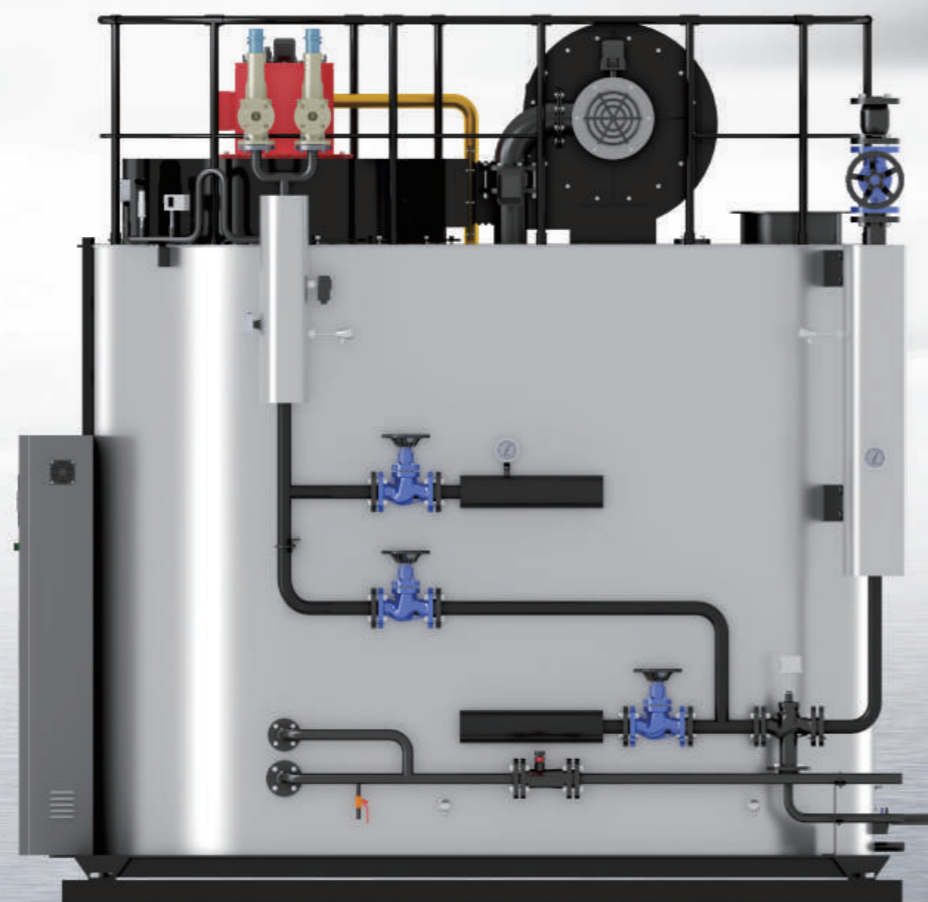
< 30mg超低氮排放
< 30mg ultra-low nitrogen emission



采用变频柱塞泵, 精准流量控制
Adopting variable frequency plunger pump for precise flow control



蒸汽压力1.25~3.82Mpa, 可按照要求定制
Steam pressure 1.25~3.82Mpa, Can be customized upon request



终身质保 (盘管换热器、再热器、节能冷凝一体机)

本体三大件的盘管换热器、再热器、节能冷凝终身质保, 给您提供更加优异的蒸汽设备供给及可靠的品质保证。

Lifetime warranty (coil heat exchanger, reheater, energy-saving condensing integrated machine)

The coil heat exchanger, reheater, and energy-saving condenser of the three major components of the main body have a lifetime warranty, providing you with better steam equipment supply and reliable quality assurance.



NOX < 30mg/m³ 超低排放标准

Cavallo盘管蒸汽锅炉采用FGR变频燃烧系统, 氮氧化物排放可 < 30mg/m³, 燃烧效率 > 99% 远超国际环保标准。

NOX < 30mg/m³ ultra-low emission standard

The Cavallo coil steam boiler adopts an FGR variable frequency combustion system, with nitrogen oxide emissions of less than 30mg/m³ and a combustion efficiency of over 99%, far exceeding international environmental standards.



产气速度快

盘管直流结构, 水容量小、2-3分钟即可出蒸汽, 比传统蒸汽锅炉减少设备预热时间近90%, 降低能源消耗。

High gas production rate

Coil DC structure, small water capacity, 2-3 minutes out of steam, than the traditional steam boiler to reduce the equipment preheating time of nearly 90%, reduce energy consumption.



精准的变频给水流量及压力控制

Cavallo盘管蒸汽锅炉采用柱塞泵(变频), 有效控制压力与流量, 提高蒸汽稳定输出根据实际蒸汽需求调节补水工作, 按需供能, 更加节能。

Precise frequency conversion of water supply and pressure

Cavallo coil steam boiler adopts piston pump (frequency conversion) to effectively control the pressure and flow rate, improve the steam output stability, adjust the water supply according to the actual steam demand, energy supply according to demand, more energy saving.

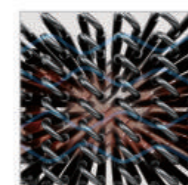


盘管直流换热结构

Cavallo采用独特耐用的盘管直流换热器结构, 内部循环创造了极低的压差环境, 更小的热应力冲击, 拥有高效的热传递与换热效率, 拥有超长的使用寿命。

Coil DC heat transfer structure

Cavallo uses a unique and durable coiled DC heat exchanger structure. The internal circulation creates an extremely low pressure differential environment, less thermal stress shock, high heat transfer and heat exchange efficiency, and an extremely long service life.



再热器装置

在饱和温度工况下, 可通过卡瓦诺独特再热器装置, 提高30°C的蒸汽温度, 满足更多用户对蒸汽系统的需求, 同时提高锅炉效率, 降低能源消耗。

Reheater device

Under saturated temperature conditions, the unique CAVALLO reheater device can increase the steam temperature by 30 ° C, meet the needs of more users for the steam system, and improve boiler efficiency while reducing energy consumption.

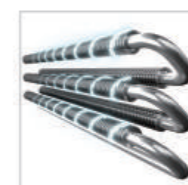


高品质蒸汽

Cavallo盘管蒸汽锅炉, 补水供给精准(流量/压力)、无水波动, 汽化空间稳定, 外置式独特的二级汽水干燥技术, 蒸汽干燥度 > 99%。

High quality steam

Cavallo coil steam boiler, with precise water supply (flow/pressure), no water level fluctuations, stable vaporization space, unique external two-stage steam and water drying technology, steam drying degree > 99%.



深度冷凝换热技术

Cavallo盘管蒸汽锅炉, 配置节能/冷凝一体式结构, 材质选用20#钢基管+304不锈钢翅片, 排烟温度 < 60°C, 热效率 ≥ 102%。

Deep condensing heat transfer technology

Cavallo coil steam boiler, equipped with energy-saving/condensing integrated structure, made of 20 # steel base tube+304 stainless steel fins, with exhaust gas temperature < 60 ° C and thermal efficiency ≥ 102%.

► 锅炉结构

BOILER STRUCTURE

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INTERNATIONAL STANDARDS

CAVALLO卡瓦诺超低氮冷凝盘管蒸汽锅炉(立式快装结构), 燃烧器安装在锅炉顶部, 由内圈盘管、外圈盘管、仪表阀头装置、再热器、节能冷凝一体机等几部分组成。

该款锅炉配置有再热器, 具有更高蒸汽温度和干燥度, 蒸汽干燥度最高可达99%。

CAVALLO ultra-low nitrogen condensing coil steam boiler (vertical quick installation structure), with the burner installed on the top of the boiler, consists of inner coil, outer coil, instrument valve head device, reheater, energy-saving condensing integrated machine, and other parts.

This boiler is equipped with a reheater, which has higher steam temperature and dryness, with a maximum steam dryness of 99%.



- 采用CAVALLO卡瓦诺变频柱塞泵实现炉水的强制循环, 且水量循环稳定, 水位波动小。
- 全自动电控保护系统, 确保锅炉在燃烧运行过程中的安全性。采用快装结构, 占地较小、安装便捷快速。
- The CAVALLO variable frequency plunger pump is used to achieve forced circulation of furnace water, with stable water circulation and small water level fluctuations.
- Automatic protection electric control system, to ensure the safety of the boiler during combustion operation. using fast loading structure, cover an area of small, installation is convenient quickly.

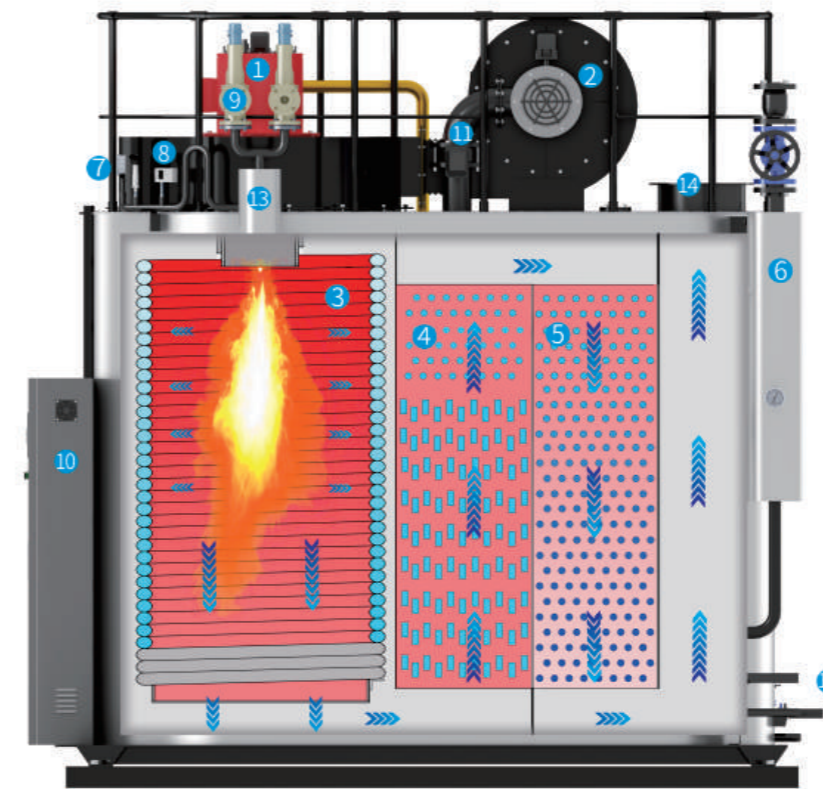
► 工作原理

WORKING PRINCIPLE

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Cavallo卡瓦诺超低氮冷凝盘管蒸汽锅炉, 是由顶部FGR变频燃烧器喷出燃烧火焰, 烟气经内圈盘管组成的炉膛冷却, 从内圈盘管下部烟气出口折入外圈盘管组成的对流烟道, 再从外圈盘管烟气出口折回至外筒体组成的外侧烟道, 烟气沿此壁从锅炉下部进入再热器, 然后经过节能冷凝一体机的双重冷凝, 实现超低排烟温度。卡瓦诺超低氮冷凝立式盘管蒸发机组, 属于强制循环直流蒸汽盘管锅炉, 该锅炉体积小由一根管子环绕而成, 水从顶部管中与火焰方向相对高速向下流动, 无需预热, 几十秒就可以产出蒸汽, 速度特别快。

Cavallo ultra-low nitrogen condensing coil steam boiler is a combustion flame sprayed out by the top FGR variable frequency burner, and the flue gas is cooled by the furnace composed of inner coil tubes. It is folded into the convection flue composed of outer coil tubes from the lower flue gas outlet of inner coil tubes, and then folded back to the outer flue composed of outer cylinder tubes from the outer coil tube flue gas outlet. The flue gas enters the reheater from the lower part of the boiler along this wall, and then passes through the dual condensation of energy-saving condensing integrated machine, Realize ultra-low smoke exhaust temperature. Cavallo ultra-low nitrogen condensing vertical coil evaporator unit belongs to the forced circulation DC steam coil boiler. The boiler has a small volume and is surrounded by a tube. Water flows downward at a relatively high speed from the top tube in the direction of the flame, without preheating. It can produce steam in a few tens of seconds, and the speed is particularly fast.



- 1 超低氮燃烧器
Ultra low nitrogen burner
- 2 超低氮变频风机
Ultra low nitrogen variable frequency fan
- 3 盘管换热器
Coil heat exchanger
- 4 再热器
Reheater
- 5 节能冷凝一体机
Energy saving condensing all-in-one machine
- 6 蒸汽扩容器
Steam expansion vessel
- 7 压力表
Pressure gauge
- 8 压力开关
Pressure switch
- 9 安全阀
safety valve
- 10 智能变频控制柜
Intelligent variable frequency control cabinet
- 11 FGR管道
FGR pipeline
- 12 疏水口
Hydrophobic outlet
- 13 仪表阀头装置
Instrument valve head device
- 14 出烟口
Smoke outlet

► 超低氮FGR变频燃烧系统

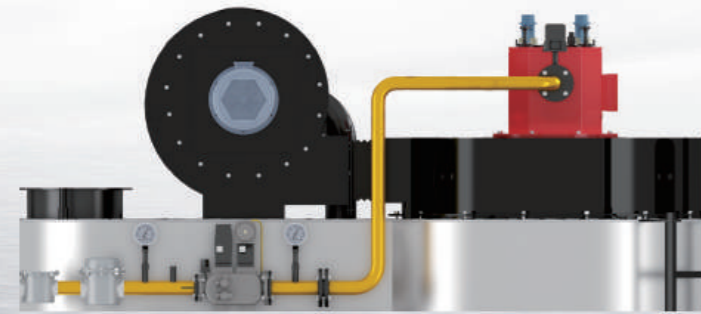
ULTRA LOW NITROGEN FGR VARIABLE FREQUENCY COMBUSTION SYSTEM

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

Cavallo卡瓦诺超低氮分体式燃烧器 Cavalloultra-lownitrogensplitburner

Cavallo卡瓦诺超低氮燃烧器,拥有燃料三级分布技术、空气四级混合技术、预混技术、烟气内循环技术等众多的燃烧技术使燃烧器燃烧更稳定;使燃料完全燃烧,节省锅炉运行成本。

Cavallo ultra-low NOx burner has many combustion technologies, such as fuel three-stage distribution technology, air four-stage mixing technology, premixing technology, FGR technology, to make the combustion more stable, and complete, to save operation cost.



配置Cavallo卡瓦诺FGR不锈钢管道 FGRfluegasductinstainlesssteelfromCavallo

为防止冷凝水腐蚀管道及燃烧系统,本产品配置有不锈钢材质管道,可延长锅炉使用寿命,确保锅炉运行安全;
FGR不锈钢管道,结合卡瓦诺超低氮燃烧器,可轻松实现<30mg超低氮排放标准。

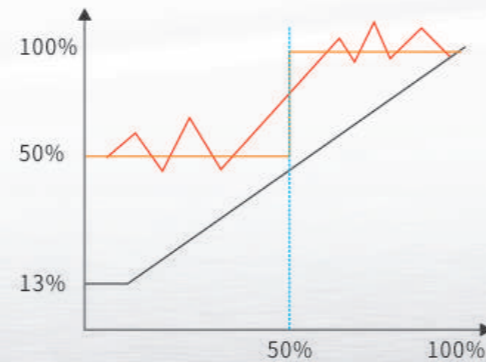
In order to prevent condensate water from corroding pipes and combustion systems, this product is equipped with stainless steel pipes, which can extend the service life of the boiler and ensure the safe operation of the boiler.
Cavallo ultra low NOx burner with FGR can easily reach 30mg NOx emission.

配置变频器,实现比例控制燃烧,高效节能

Configure a frequency converter to achieve proportional control of combustion, efficient and energy-saving

该款锅炉配置ABB变频器和SIEMENS比例调节燃气阀,可提供最佳混合比例的燃气与助燃空气,蒸汽稳定性好,实现99.99%完全燃烧,降低锅炉能源消耗。

This boiler is equipped with ABB frequency converter and SIEMENS proportional control gas valve, which can provide the best mixing ratio of gas and combustion air. The steam stability is good, achieving 99.99% complete combustion and reducing boiler energy consumption.



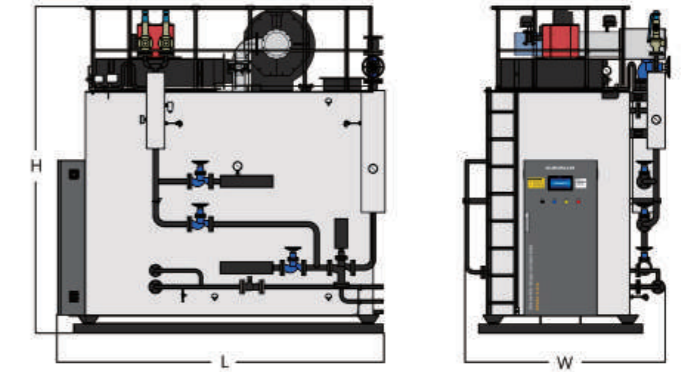
<30mg极低氮氧化物排放 <30mg NOx emission

	Nox排放 NOx emissions
普通蒸汽锅炉 Conventional steam boilers	80-150mg/m ³
卡瓦诺超低氮冷凝盘管蒸汽锅炉 CAVALLO ultra-low nitrogen condensing coil steam boiler	<30mg/m ³

► 技术参数

TECHNICAL PARAMETERS

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INTERNATIONAL STANDARDS



■ Cavallo超低氮冷凝盘管蒸汽锅炉

额定蒸发量 RATED EVAPORATION	t/h	1	1.5	2	3	4	5	6	8	10	
额定工作压力 RATED WORKING PRESSURE	MPa	1.25(1.6/2.5/3.82)									
蒸汽温度 STEAM TEMPERATURE	°C	193(204/225/249)									
给水温度 FEED WATER TEMPERATURE	°C	20(可调节于高温凝结水回收系统)									
设计排烟温度 DESIGN EXHAUST TEMPERATURE	°C	<55°C									
受热面积 HEATING AREA	m ²	42	63	84	126	168	210	252	336	420	
设计热效率 DESIGN THERMAL EFFICIENCY	%	102%									
天然气消耗量 NATURAL GAS CONSUMPTION	Nm ³ /h	74	111	148	222	296	370	444	592	740	
氮氧化物(NOX) NITROGEN OXIDE	mg/Nm ³	<30 (FGR)									
电源 POWER SOURCE	V/Hz	380/50									
用电总功率 TOTAL POWER CONSUMPTION	kW	8.5	9	10	13	18	25	27	36	49	
燃烧型式 COMBUSTION PATTERN		室燃微正压燃烧									
燃烧调节方式 COMBUSTION REGULATION MODE		变频比例调节									
给水方式 WATER SUPPLY SYSTEM		变频连续给水									
锅炉净重 NET BOILER WEIGHT	t	2.6	3.5	4.8	6.5	8.7	10.4	11.3	14.5	18.2	
锅炉满水容量 THE BOILER IS FULL OF WATER	L	96	132	175	256	330	415	508	686	995	
锅炉满水重量 BOILER FULL WATER WEIGHT	t	2.7	3.7	5	6.8	9.1	10.9	11.8	15.2	19.2	
燃烧系统 COMBUSTION SYSTEM	电机功率 MOTOR POWER	kW	2.2	3	4	7.5	11	15	15	22	30
	供气压力 GAS SUPPLY PRESSURE	kPa	7~9	7~9	13~15	13~15	15~20	20~25	20~25	25~30	30~35
	阀组口径 VALVE BANK DIAMETER	DN	40	50	50	50	65	65	65	80	100
	负荷范围 LOAD RANGE	%	30~100								
	接管口径 NOZZLE DIAMETER	DN	40	50	65	65	80	80	80	100	125
锅炉主汽口 BOILER MAIN STEAM PORT	DN	40	50	65	80	100	125	125	150	150	
锅炉给水口 BOILER FEED PORT	DN	25	25	32	32	40	40	40	50	50	
本体排水口 BODY DRAIN	DN	25	25	25	32	32	32	32	32	32	
安全阀泄放口 SAFETY VALVE RELIEF PORT	DN	40	50	50	50	65	100	100	100	100	
锅炉排烟口 BOILER EXHAUST PORT	φmm	245	300	350	400	450	500	500	600	650	
烟道冷凝水排放口 FLUE CONDENSATE DISCHARGE PORT	DN	25	25	32	32	32	32	40	40	40	
锅炉外形尺寸 BOILER DIMENSIONS (L×W×H)	mm	2500*1700 *2800	2800*1900 *3000	3400*2200 *3300	3600*2400 *3500	3800*2500 *3600	4000*2700 *3800	4000*2700 *3800	4300*3000 *4100	4600*3000 *4300	

- 1、意大利Cavallo卡瓦诺超低氮燃烧器为本公司的标准配置;
- 2、燃料计算基准值:天然气低位发热值8500kcal/Nm³;
- 3、燃气锅炉,排烟温度低于露点时,产生大量呈酸性冷凝水会对尾部烟道造成腐蚀,建议使用防腐不锈钢烟道;
- 4、用户需满足水质要求;
- 5、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。

1. The Cavallo ultra-low nitrogen burner in Italy is our standard configuration;
2. Fuel calculation reference value: natural gas low calorific value 8500kcal/Nm³;
3. When the exhaust gas temperature of a gas boiler is lower than the dew point, a large amount of acidic condensate water is generated, which can cause corrosion to the tail flue, it is recommended to use anti-corrosion stainless steel flue;
4. Users need to meet water quality requirements;
5. The above parameters may change during continuous innovation and improvement of the product, and the final drawing shall prevail.

NPGS*-***-Q(LN)

超低氮冷凝盘管蒸汽发生器 PRODUCT SERIES

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

不用报装报检的蒸汽锅炉!



超低氮冷凝盘管蒸汽发生器

ULTRA LOW NITROGEN CONDENSING COIL STEAM GENERATOR

锅炉概述 / overview

Cavallo卡瓦诺超低氮冷凝盘管蒸汽发生器,是科诺与卡瓦诺合资的最新产品,该产品水容积小,安全免检。结构采用独特持久的盘管结构,内部循环创造了极低的压差环境,更小的热应力冲击,拥有高效的热传递与换热效率,产气快,使用寿命长。配置全预混变频燃烧系统,氮氧化物排放低于30mg/m³;配置PLC智能控制器+液晶显示屏组合,实现锅炉的自动控制。

Cavallo ultra-low nitrogen condensing coil steam generator is the latest joint venture product between KENUO and Cavallo. The product has a small water volume and is safe and exempt from inspection. The structure adopts a unique and durable coil structure, with internal circulation creating an extremely low pressure difference environment, smaller thermal stress impact, efficient heat transfer and exchange efficiency, fast gas production, and long service life. Equipped with a fully premixed variable frequency combustion system, with nitrogen oxide emissions below 30mg/m³; Configure a combination of PLC intelligent controller and LCD display screen to achieve automatic control of the boiler. PLC intelligent controller and LCD display screen to achieve automatic control of the boiler.

核心优势 / core advantage



终身质保
盘管换热器、节能冷凝一体机(终身质保)
Coil heat exchanger and energy-saving condensing integrated machine (lifetime warranty)



盘管换热结构,效率高、产气快、寿命长
Coil heat transfer structure, high efficiency, fast gas production, long life



创新
INNOVATION



智能
INTELLIGENT



低氮
LOW NOx



高效
EFFICIENT



安全
SAFETY

产品经过图纸鉴定审批,由特检院监检,A级(锅炉)制造,品质保证。
Cavallo为用户定义行业质量,保证体系新标准。

The product has undergone drawing appraisal and approval, and is inspected by the Special Inspection Institute and manufactured in Class A (boiler) with quality assurance. Cavallo defines new standards for industry quality and assurance systems for users.

▶ 锅炉性能特点

PERFORMANCE CHARACTERISTICS

SINO-ITALIAN JOINT VENTURE INTERNATIONAL STANDARDS



占地面积小,极低的安全要求。
Small footprint and extremely low safety requirements.

智能控制,多重安全保护系统。
Intelligent control, multiple security protection system.

< 30mg超低氮排放
< 30mg ultra-low nitrogen emission

安全免检,符合最新蒸发器标准,无需报装。
Safety exemption, in line with the latest evaporator standards, no need to apply for inspection.

超低氮变频比例调节燃烧技术
Ultra-low nitrogen frequency proportional combustion technology

采用变频柱塞泵,精准流量控制,按需供给,更节能
Adopting variable frequency plunger pump, precise flow control, on-demand supply, more energy-saving

水容量小,产气快,2-3分钟可达工作状态。
Small water capacity, fast gas production, 2-3 minutes reach working condition.

最大热效率102%
Maximum thermal efficiency 102%

独特的盘管换热结构,效率高、产气快、寿命长
Unique coil heat transfer structure, High efficiency, fast gas production and long life

深度冷凝一体式结构,换热面积大,耐腐蚀性强,余热回收率高
Deep condensing integrated structure, large heat transfer area, strong corrosion resistance, high recovery of waste heat

高品质蒸汽,蒸汽干燥度达99%
High-quality steam, steam drying degree of 99%

▶ 超低氮全预混燃烧技术

ULTRA-LOW NITROGEN FULL PREMIXED COMBUSTION TECHNOLOGY

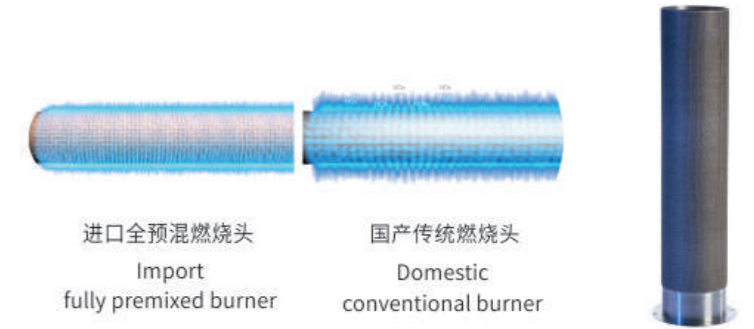
SINO-ITALIAN JOINT VENTURE INTERNATIONAL STANDARDS

超低氮全预混燃烧器采用进口金属纤维燃烧头、阿美特克变频风机、西门子阀组和控制,高达99.9%热效率,并能降低氮氧化物排放达30mg/m³以下。

工作原理: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少,烟气体积小,排烟热损失少。

Ultra-low nitrogen fully premixed burners with Import metal fiber combustion heads, Ametec variable frequency fan, Siemens valve banks and controls provide up to 99.9% thermal efficiency and can reduce nitrogen oxide emissions to less than 30mg/m³.

Working principle: Gas through the solenoid valve, air through the Venturi, under the action of wind pressure of the fan, together into the fan. The fan will stir the two kinds of gas evenly blown into the premixed chamber, and the premixed chamber plays the role of balancing the wind pressure. After the above process, gas and air to achieve the purpose of complete premix. For fully premixed gases, the contact surface area of gas molecules is large and combustion reactions are easy to occur. Ignition, the reaction speed is fast, combustion is more full, gas chemical energy release is more complete; And the air excess coefficient is low, the amount of residual oxygen is less, the air pollution generated by combustion is less, the flue gas volume is small, the exhaust heat loss is less.



进口全预混燃烧头
Import fully premixed burner

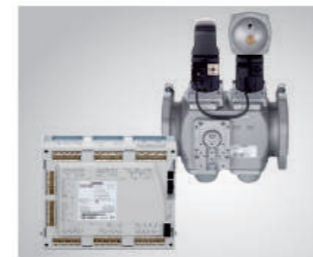
国产传统燃烧头
Domestic conventional burner

西门子燃烧控制及阀组

采用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 group

With Siemens combustion control and valve group, precise fuel air mixture ratio control is provided to achieve 99.9% combustion, ensuring the safety and reliability of fully premixed burners.



AMETEK变频风机

选用美国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,在全负荷运行下,也可保证低噪音运行。

AMETEK inverter fan

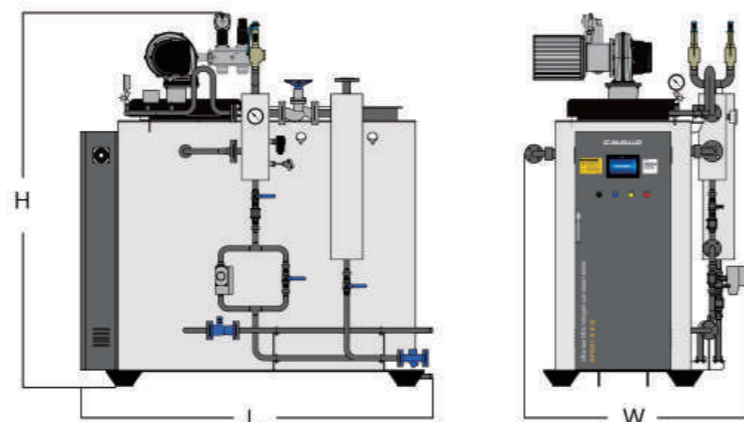
Choose USA AMETEK inverter fan, the fan has a constant air flow performance, very low noise is far lower than the international standard, also can operate under high pressure conditions with low noise.



技术参数

TECHNICAL PARAMETERS

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



■ Cavallo超低氮冷凝盘管蒸汽发生器 / NPGS***-***-Q

额定蒸发量 Rated evaporation	t/h	0.5	0.8	1	1.2
额定工作压力 Rated working pressure	MPa		0.8		
蒸汽温度 Steam temperature	°C		175		
给水温度 Feed water temperature	°C		20		
设计排烟温度 Design exhaust temperature	°C		<55°C		
受热面积 Heating area	m ²	25	41.5	41.5	41.5
设计热效率 Design thermal efficiency	%		≥102%		
天然气消耗量 Natural gas consumption	Nm ³ /h	37	59	74	88
氮氧化物/(Nox) Nitrogen oxides/(NOx)	mg/Nm ³		<30		
电源 Power Supply	V/Hz		380/50		
用电总功率 Total power consumption	kW	6.3	7	8.5	10
燃烧型式 Combustion type		超低氮全预混表面燃烧			
燃烧调节方式 Combustion regulation method		变频调节			
给水方式 Water supply method		变频连续给水			
锅炉净重 Net weight of boiler	t	1.4	1.86	1.86	1.86
锅炉满水容量 Boiler full water capacity	L	39	48	48	48
锅炉满水重量 Boiler full water weight	t	1.44	1.9	1.9	1.9
燃烧系统 combustion system	风机压头 Fan pressure head	Pa	2100	2800	2800
	风量 Air volume	m ³ /h	625	1000	1250
	电机功率 Motor power	kw	2.2	3	3
	供气压力 Air supply pressure	kPa	4-6	5-8	5-8
	阀组口径 Valve group diameter	DN	32/40	32/40	32/40
	负荷范围 Load range	%	30-100		
	接口尺寸 Interface size	DN	40	40	40
锅炉主汽口 Boiler main steam outlet	DN	40	40	40	40
锅炉给水口 Boiler water supply outlet	DN	25	25	25	25
底部定期排污口 Bottom regular drain outlet	DN	25	25	25	25
表面连续排污口 Surface continuous sewage outlet	DN	25	25	25	25
水位计放水口 Water level gauge outlet	DN		15		
安全阀口径 Safety valve diameter	接口 Interface	DN	32	32	32
	泄放口 bleeder	DN	40	40	40
锅炉排烟口 Boiler exhaust port	φmm	194	245	245	245
节能冷凝一体机进/出水口 Energy saving condensing integrated machine inlet/outlet	DN	25	25	25	25
烟道冷凝水排放口 Flue condensate discharge outlet	DN	25	25	25	25
锅炉外形尺寸 Boiler overall dimensions (L×W×H)	mm	2100×1500×2250	2250×1550×2450	2250×1550×2450	2250×1550×2450

1. 意大利Cavallo卡瓦诺超低氮燃烧器为本公司的标准配置;
2. 燃料计算基准值:天然气低位发热值8500kcal/Nm³;
3. 燃气锅炉,排烟温度低于露点时,产生大量呈酸性冷凝水会对尾部烟道造成腐蚀,建议使用防腐不锈钢烟道;
4. 用户需满足水质要求;
5. 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。

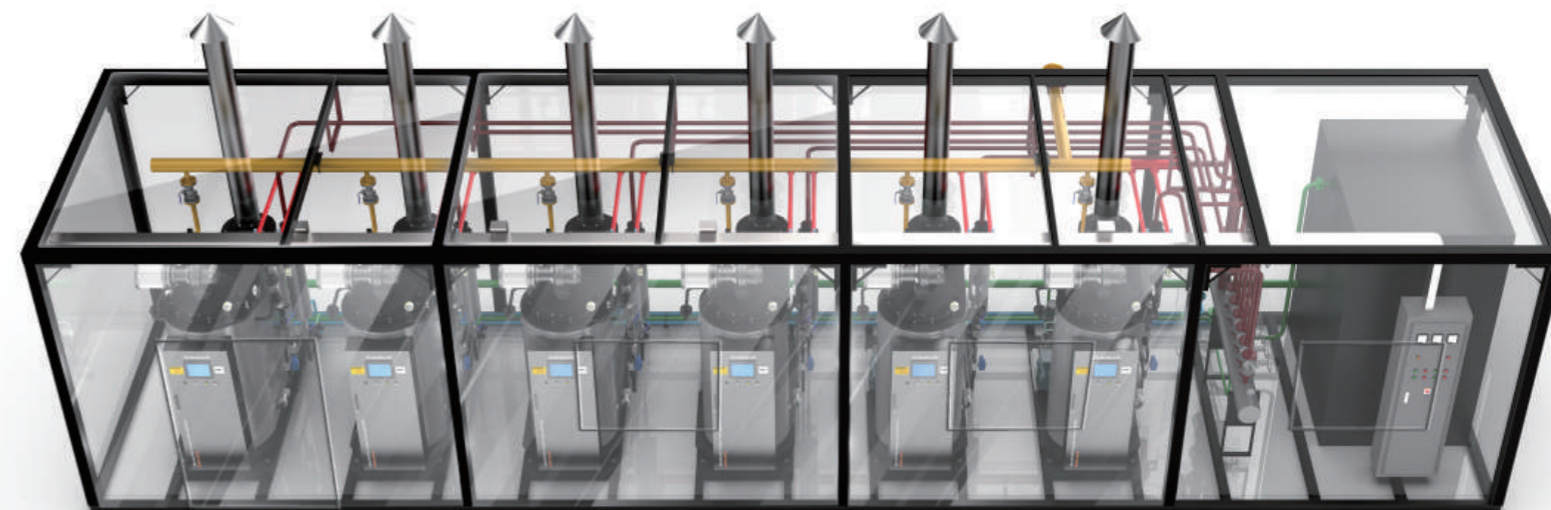
1. The Cavallo ultra-low nitrogen burner in Italy is our standard configuration;
2. Fuel calculation reference value: natural gas low calorific value 8500kcal/Nm³;
3. When the exhaust gas temperature of a gas boiler is lower than the dew point, a large amount of acidic condensate water is generated, which can cause corrosion to the tail flue, It is recommended to use anti-corrosion stainless steel flue;
4. Users need to meet water quality requirements;
5. The above parameters may change during continuous innovation and improvement of the product, and the final drawing shall prevail.

撬装集成式蒸汽能源站

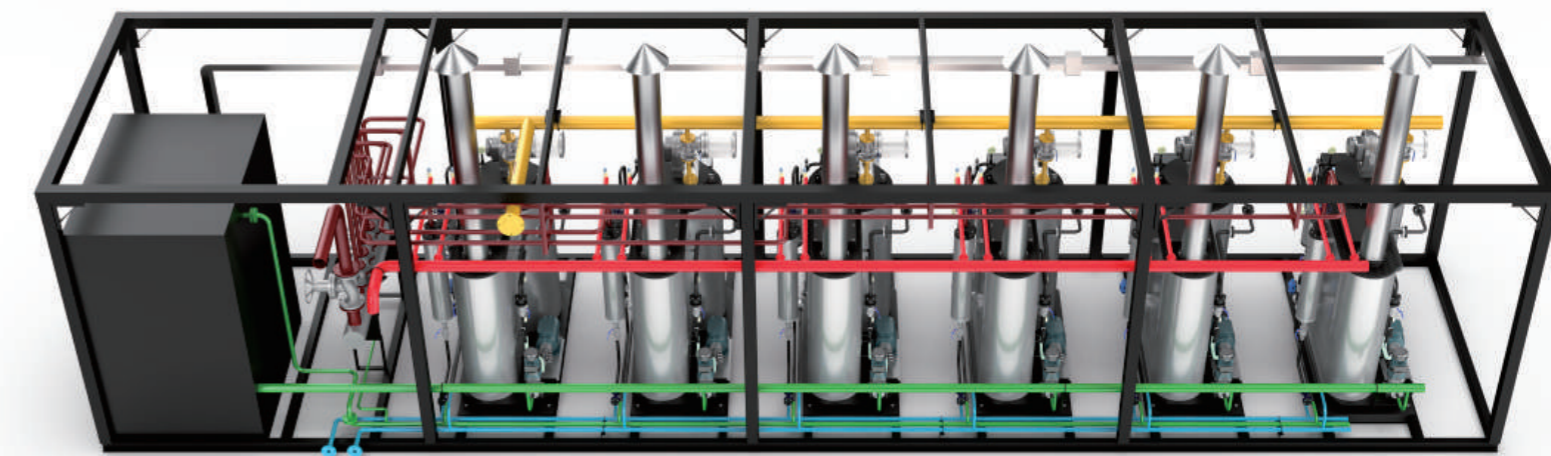
INTEGRATED STEAM POWER STATION

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

室外 / Outdoor



接上水电气就能用的一体式锅炉房



室内 / Indoor

▶ 超安全智能控制系统

SUPER SAFE INTELLIGENT CONTROL SYSTEM

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

用户可选配物联网技术，搭载科诺云平台，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，直接接入锅炉物联网系统，可同时应用于移动端和PC端，实现锅炉系统的远程多点实时连接。

- 采用7英寸液晶显示触摸屏，与高性能可编程PLC控制器完美匹配；
- 具备锅炉给水流量控制/超压/超温报警等连锁安全防护功能，可有效实时记录锅炉运行状态，全面监控锅炉运行安全。

Users can choose to equip with IoT technology, equipped with the Kono Cloud platform, which covers the collection, transmission, analysis, and communication functions of boiler information (reports) such as boiler operation status, boiler energy conservation and emission reduction database. It is equipped with an intelligent gateway and directly connected to the boiler IoT system. It can be applied to both mobile and PC ends, achieving remote multi-point real-time connection of the boiler system.

- Using 7-inch LCD touch screen, perfect matching with high-performance programmable PLC controller;
- Equipped with interlocking safety protection functions such as boiler feedwater flow control, overpressure/overheating alarm, etc., it can effectively record the boiler operation status in real time and comprehensively monitor the boiler operation safety.

- 锅炉集成状态监控功能
Monitoring of full functions of the boiler
- 锅炉单独运行/停止功能
Boiler start / stop function
- 锅炉给水流量控制/超压/超温报警功能
Boiler feedwater flow control / high pressure / high temperature alarm
- 锅炉具备预约运行功能
Scheduled startup of operation
- 断电自锁保护功能
Self-interlock during power down for protection
- 燃气检漏/燃气压力异常保护功能
Gas leak detection/gas pressure abnormal protection
- SMS文字信息实时提醒功能
SMS text message for real time alert.
- 数据/信息的收集、分析、存储功能
Data / information collection, analysis, and storage function
- 控制器具有密码(Password)锁定功能
Password protection of the controller
- 锅炉运行历史数据查询及故障自动识别功能
Historical data query and automatic fault identification of boiler operation
- 具有标准的RS485接口，采用MODEBUS协议，可实现多台锅炉的远程群控功能
Modbus RS485 interface, connection to the upper control system or DCS system of the plant from multiple boilers



▶ 应用领域

AREAS OF APPLICATION

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

该款锅炉使用于医院、酒店餐饮、工业制造、电子电工、食品饮料、医药加工、纺织印染、桑拿洗浴、洗衣烘干等有蒸汽需求的场所及工厂。

This boiler is used in hospitals, hotel catering, industrial manufacturing, electronics and electrical engineering, food and beverage, pharmaceutical processing, textile printing and dyeing, sauna bathing, laundry and drying, and other places and factories with steam demand.

医院



工业制造



餐饮酒店



桑拿洗浴



空气加湿



纺织印染



制药加工



洗衣烘干



食品饮料



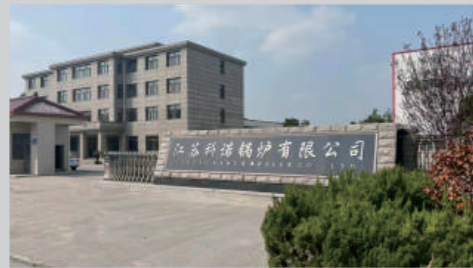
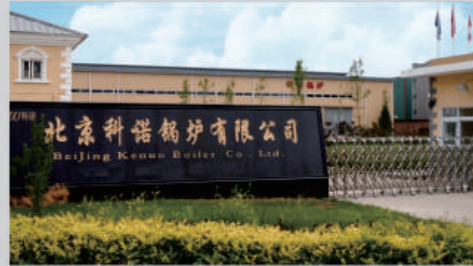
电子电工



企业简介

COMPANY PROFILE

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS



位于首都北京的科诺锅炉，是一家专注于燃气锅炉及燃烧器研发、生产、销售、投资运营于一体的综合热能实业企业。目前拥有包括北京科诺锅炉有限公司(B级)、江苏科诺锅炉有限公司(A级)、北京科诺热力有限公司、山西科诺热力有限公司、福建科诺热力有限公司、江苏卡瓦诺热能科技有限公司在内的六家分公司。

2017年北京科诺锅炉(B级)与意大利Cavallo卡瓦诺成立股份合资公司,并获得北京市人民政府外商投资企业批准文书。同年,江苏科诺锅炉有限公司(A级)、江苏卡瓦诺热能科技有限公司成立于扬州,秉承意大利Cavallo卡瓦诺丰富的生产经验及核心技术,于国内装配推广销售Cavallo超低氮锅炉及燃烧器,以更好的服务于全国市场。

现阶段,公司核心业务包括超低氮冷凝蒸汽锅炉、超低氮冷凝承压热水锅炉、超低氮冷凝常压热水锅炉、超低氮冷凝真空热水锅炉、卡瓦诺超低氮自然循环冷凝蒸汽锅炉、卡瓦诺超低氮不锈钢全冷凝承压热水锅炉、卡瓦诺超传导电热水机组、卡瓦诺真空相变电热水机组、卡瓦诺全预混超低氮燃烧器、卡瓦诺分体式超低氮燃烧器、卡瓦诺一体式超低氮燃烧器等产品的研发、生产、销售及售后服务,并承接锅炉低氮节能改造、供热服务、热力投资等关联业务项目。

未来,科诺锅炉将借助意大利Cavallo卡瓦诺锅炉的技术优势,乘势而上,继续秉承“为大众创造美好生活”的宏伟愿景,造福于员工、回报于社会!

Kenuo Boiler, located in Beijing - Capital of China, is a comprehensive enterprise, focusing on gas-fired boiler design, production, sales and BOT investment. It has 6 subsidiary companies including Beijing Kenuo Boiler Co.,Ltd. (Boiler Manufacturing License B), Jiangsu Kenuo Boiler Co.,Ltd. (Boiler Manufacturing License A), Jiangsu Cavallo Thermal Energy Technology Co., Ltd., Beijing Kenuo Thermal Power Co.,Ltd., Shanxi Kenuo Thermal Power Co.,Ltd. and Fujian Kenuo Thermal Power Co.,Ltd.

In 2017, after obtaining the approval document of foreign-invested enterprises of Beijing Municipal People's Government, Beijing Kenuo Boiler become a joint venture with Italy Cavallo. In the same year, Jiangsu Kenuo Boiler Co., Ltd. and Jiangsu Cavallo Thermal Energy Technology Co., Ltd. were established in Yangzhou. Additional with the excellent combustion system design and production experience of Cavallo, Kenuo is to better service the National Market.

At present, the group's core businesses are covering the design, production and sales & service for ultra-low NOx condensing steam boiler, ultra-low NOx condensing hot water boiler (pressure), ultra-low NOx condensing atmospheric pressure hot water boiler, ultra-low NOx condensing vacuum phase change hot water boiler, Cavallo ultra-low NOx condensing natural circulation steam boiler, Cavallo ultra-low NOx stainless steel condensing pressure hot water boiler, Cavallo superconducting electric water heater, Cavallo vacuum phase change electric hot water heater, Cavallo premixing ultra-low NOx burner, Cavallo dual bloc ultra-low NOx burner, Cavallo mono bloc ultra-low NOx burner. It is also engaged in the low NOx revamping, BOT investment and district heating sectors.

In the future, Kenuo boiler, adopting the technology of Italy Cavallo, will remain true to its original aspiration and keep its mission firmly in mind: creating and servicing better for the society!

意大利Cavallo卡瓦诺锅炉

意大利Cavallo卡瓦诺锅炉是一家全球领先的超低氮锅炉及燃烧器生产企业,在热能领域拥有五十年的技术沉淀。2017年,与科诺锅炉集团强强联手,成立股份合资公司,借助双方在国际、国内的品牌及渠道优势,引进欧洲超低氮技术,进军全球市场。

Italian Cavallo boiler introduction

Cavallo boiler is one of the world's leading manufacturers of ultra-low nitrogen boilers and burners, and has 50 years of technical precipitation in thermal fields. Thus in 2017, Cavallo and Kenuo set up a joint venture in China, aim to introduce European ultra-low NOx technology to the global market.

销售网络

SALES FOOTPRINTS

SINO-ITALIAN JOINT VENTURE
INTERNATIONAL STANDARDS

- ★ 生产中心
Production Center
- 销售区域
Sales Area



经典案例 CLASSIC CUSTOMER

