



上海电气鼓风机厂有限公司

SHANGHAI ELECTRIC BLOWER WORKS CO.,LTD.

WWW.SHANGHAI-ELECTRIC.COM





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公司简介

BRIEF INTRODUCTION TO THE COMPANY



上海电气鼓风机厂有限公司（原上海鼓风机厂有限公司）成立于1947年，隶属于上海电气，是上海市高新技术企业，上海市科技小巨人企业，中国风机行业协会副理事长单位。

公司通过近40年的技术引进、消化、吸收和再创新，专业生产各类工业用透平设备，包括离心压缩机、动、静叶可调轴流风机、大型离心风机、高温气冷堆氦气风机及燃料球压缩机。产品主要应用领域为火电、核电、环保、冶金、矿山、石油、化工、军工、风洞等行业。

公司根据新时期企业发展需要，积极推进“两个中心、一个基地”建设，即在上海总部设立市场营销中心与技术研发中心，在启东设立生产制造基地，努力实现二次腾飞。

2015年上鼓增资德国CFE公司，同步引进其世界一流的电站、矿井、风洞风机、压缩机技术，进一步优化和拓展企业整体研发、制造实力。

公司推行全面质量管理，已通过“质量体系管理认证”(ISO9001:2015)，“环境管理体系认证”(ISO14001:2015)，“职业健康安全管理体系认证”(GB/T28001-2011)三项管理体系认证。

公司将一如既往地与客户竭诚合作，共创共赢。以透平机械产品研发、制造为核心，努力为用户提供产品全生命周期、全方位服务，集成相关产品形成系统解决方案，致力于打造成为世界一流的透平产品系统服务商。

Shanghai Electric Blower Works Co. Ltd. (the former Shanghai Blower Works Co. Ltd.), was established in 1947, a member of Shanghai Electric Group, the vice chairman unit in China Fan Industry Association, has the titles of Shanghai high tech company and Shanghai high tech small giant enterprise.

Thru the introduction, digestion, and re-innovation for the technologies in last 40 years, the company is specializing in producing various industrial turbo machinery, including centrifugal compressors, axial flow hydraulic and static blade adjustable fans, large centrifugal fans, helium gas fan in high temp gas cooling reactor, and fuel ball compressor. The products are widely applied in the fields of thermal power, nuclear power, environmental, metallurgical, mining, petroleum, chemical, military and wind tunnel industries.

In order to suit the requirements in new era and for futher development, the company is building “two centers and one base”, with the marketing and technology research centers in Shanghai and manufacturing base in Qidong, Jiangsu Province.

In 2015, The company increased investment in CFE, Germany, in order to introducing the world first rate technologies for makiing power plant, mine, wind tunnel fans, and compressors.

The total quality control is implemented in the company, with the Quality management system certificate(ISO9001:2015), Environmental management certificate(ISO14001:2015), and Occupational health and safety management system certificate(GB/T28001-2011) available.

The company will, as always, try the best to cooperate with the new and old customers for the mutual success. Based on the production of turbomachinery, SEBW endeavors to be a world first rate system service provider, supplying the system resolutions for the customers with whole product life cycle, full service, and the integrated equipment.

产品历史

THE HISTORY OF THE PRODUCTS

1951

中国第一台 $42\text{m}^3/\text{min}$ 罗茨鼓风机出产

The first $42\text{m}^3/\text{min}$ Roots blower in China

1960

第一台 $200\text{m}^3/\text{min}$, 1000RPM单级离心鼓风机出产

The first $200\text{m}^3/\text{min}$, 1000RPM single stage centrifugal blower

1970

中国第一套“三合一”氧化氨离心机出产

The first "3 in 1" Ammonia oxide centrifugal compressor in China

1975

第一套年产30万吨合成氨配套空气离心压缩机出产

Air centrifugal compressor for the first 300K tons/year synthetic ammonia plant

1980

第一套液压动叶可调电站轴流送、引风机出产

The first hydraulic blade adjustable axial flow FD and ID fans for power plants

1983

第一台GAF停车动叶可调矿井轴流风机出产

The first static blade adjustable mine ventilation axial flow fan GAF

第一台TAF大型液压动叶可调隧道轴流风机出产

The first hydraulic blade adjustable axial flow tunnel fan TAF

1985

第一台PAF液压动叶可调电站轴流双级一次风机出产

The first double stage hydraulic blade adjustable power plant PA fan

1986

第一台600MW机组电站双吸双支撑离心式引风机出产

The first dual stage dual support centrifugal ID fan for 600MW power units

1991

第一台子午加速静调电站引风机出产

The first meridian acceleration axial flow power plant fan

1997

第一台GAF液压动叶可调矿井轴流风机出产

The first hydraulic blade adjustable axial flow mine ventilation fan GAF

1998

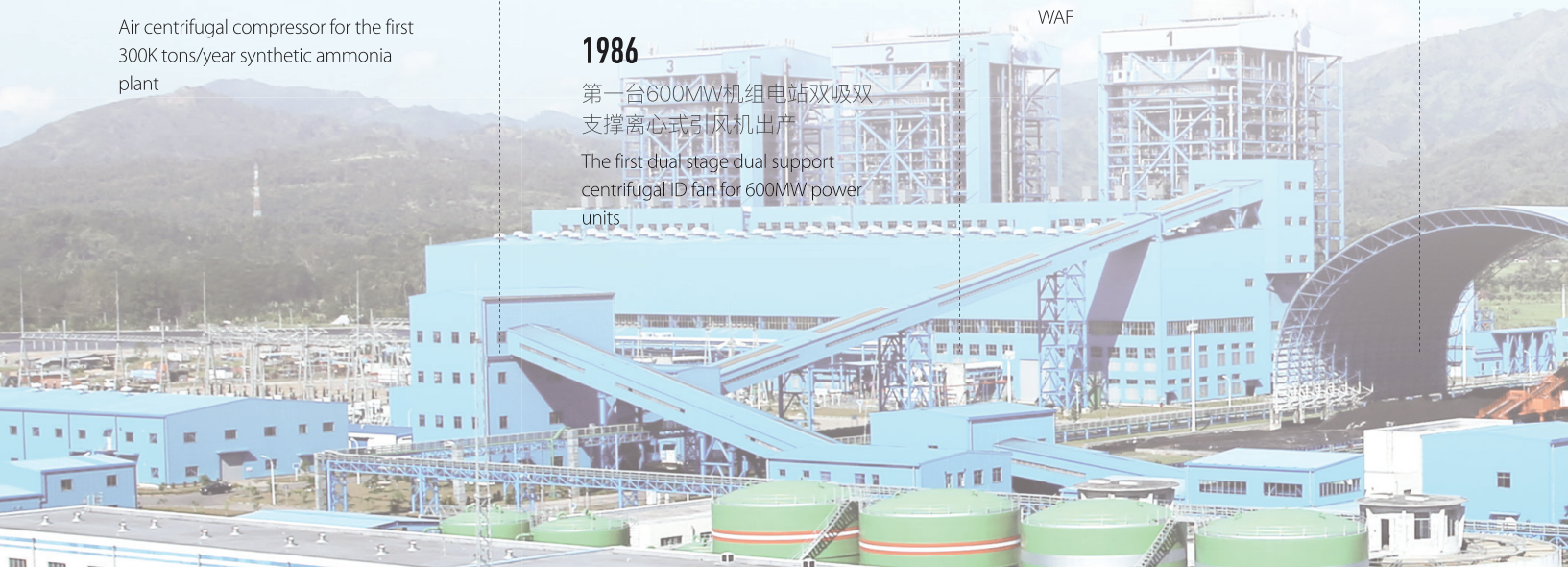
第一套全三元空气离心压缩机出产

The first full three-dimensional centrifugal air compressor

1999

第一套WAF风洞轴流风机出产

The first wind tunnel axial flow fan WAF



- 1 环境管理体系认证证书
Environmental Management System Certificate Of Conformity
- 2 职业健康安全管理体系认证证书
Occupational Health And Safety Management System Certificate Of Conformity
- 3 质量管理体系认证证书
Quality Management System Certificate Of Conformity



2000

中国第一台HTR-10高温气冷实验堆主氦风机出产

The first main helium fan for HTR-10 high temp gas cooling reactor in China

第一台300MW机组RAF机组RAF液压动叶可调脱硫增压风机出产

The first hydraulic blade adjustable booster fan for 300MW FGD units

2003

第一套900MW机组与TLT公司合作生产液压动叶可调送风机, 引风机, 一次风机出产

The first hydraulic blade adjustable axial flow FD, ID and PA fans for 900MW units (in cooperation with TLT)

2005

第一台1000MW机组液压动叶可调送风机/一次风机出产

The first hydraulic blade adjustable FD/PA fans for 1000MW power units

2006

第一台新型转炉煤气气午加速轴流风机出产

The first new type converter gas meridian axial flow fan

2007

第一台8.5米WA汽车声学风洞风机出产

The first fan for 8.5 meter automobile acoustic wind tunnel WA

2008

第一台新型RTF系列静叶可调风机出产

The first new type static blade adjustable axial flow fan RTF series

2010

第一台300MW一炉一台一次风机出产

The first 300MW unit PA fan (one fan for one boiler)

2014

第一台600MW机组一炉一台一次风机出产

The first 600MW unit PA fan (one fan for one boiler)

2016

第一台1240MW机组送/引/一次风机出产

The first FD/ID/PA fans for 1240MW units

2017

第一台国内第一座大型低温风洞压缩机出产

The first compressor for the first domestic large size low temp wind tunnel

2018

第一台1350MW机组送风机出产

The first FD fan for 1350 MW coal fired power plant



产品介绍

INTRODUCTION TO THE PRODUCTS

离心压缩机

INTRODUCTION TO CENTRIFUGAL COMPRESSOR



上鼓是中国七十年代初重点建设的离心压缩机制造基地之一，也是中国最早制造离心压缩机的厂家之一。为了适应国内石化工业的发展，从1970年开始了离心压缩机的设计制造，其中1971年自主设计制造国内第一台“三合一”机组，采用了国内首创的不锈钢精密铸造叶轮，介质为氧化氮腐蚀性气体，至今仍安全运转。之后又设计生产了大量空气压缩机，尤其是由二级半开式叶轮组成的高压比空气压缩机，开创了国内该类压缩机设计制造的先河。

1985年起上鼓开始加大对离心压缩机开发的投入，以适应离心压缩机的发展。在国家 and 上海电气的大力支持下，经过“七五”到“十二五”期间的技术改造，新建了离心压缩机试车车间、压缩机加工和装配车间，增

The company is the one of centrifugal compressor manufacturing bases built by the nation in 1970s, the one of the earliest centrifugal compressor manufacturers in China. In order to suit the development of national petrochemical industry, we started the design and manufacture of centrifugal compressors in 1970, and in 1971 we pioneered to design and make the first stainless steel casting impeller for the first domestic "3 in 1" unit, the compressor is still in good operation under the corrosion of nitrogen oxide gas. Then we designed and made many air compressors, especially the high pressure ratio compressor with the two stage semi-closed impellers is the first in China's compressor industry.

Since 1985, The company started to increase the investment for centrifugal compressor to suit the development. Under the support of the nation and SEC, from the "7th five year plan" to "12th five year plan", new test, machining, and assembly workshops were built, many important equipment, such as NC

加了大量的关键设备，如：数控机床，试验设备，检验设备及计算机检测系统等，形成了完整的制造加工，检验和实验手段，包括加工三元流叶轮的七轴五联动的卧式加工中心，机壳等静止件加工的数控立车设备，真空超速试验台和闭式循环的压缩机性能试验系统。

1996年，上鼓从日立公司引进了离心压缩机设计制造技术，通过人员培训，合作生产及独立设计制造攻克了一系列技术难关，形成了一支离心压缩机设计制造的技术队伍，技术人员、技术工人和管理人员的素质有了很大提高。上鼓提供的离心压缩机在燕山石化、上海石化、扬子石化、天津联化、广州石化等都是次开车成功，得到用户一致好评，确立了上鼓在中石化，中石油等用户心中的地位，成为离

machines, test/inspection apparatus, and computer detection system, were installed, the complete manufacturing, inspection, test system was formed, including seven-five axis horizontal machining center for 3 dimensional flow impeller, the vertical NC lathe for static parts, vacuum over speed test stand, and closed cycle performance test system.

Since 1996, the company introduced from Hitachi Corp. the technology for design/manufacturing centrifugal compressors. Thru stages of personnel training, cooperative production, and independent design/manufacturing, SEBW established the technical team for centrifugal compressor, and raised the quality of technical and management staff. The compressors provided by the SEBW had been applied in Yanshan, Shanghai, Yangzi, Tianjin, Guangzhou petrochemical works with good customers evaluation. SEBW becomes the qualified vendor for Sinopec and PetroChina, the reputation of the company is established.

心压缩机的合格供应商。

2005年以来，上鼓通过消化吸收引进技术，自主研发并为多个客户提供了三胺装置载气压缩机及尾气压缩机、苯酞项目空气鼓风机，并通过和清华大学合作，作为第四代核电技术高温气冷堆的产品制造商，为高温气冷堆提供了主氦风机以及氦气压缩机，为中国核能发电设备进军世界核电市场做出了卓越的贡献。

2017年，上鼓对整个压缩机产业做了崭新的规划，明确了自身发展的五大目标方向：化工压缩机、单级高速压缩机、机械蒸汽再压缩（MVR）压缩机、悬浮压缩机以及核电压缩机。并对单级高速压缩机、MVR压缩机、悬浮压缩机完成了系列化设计，满足了市场需要快速反应、标准化生产的需求。

Since 2005, through the technical introduction and assimilation, SEBW developed and supplied for many customers, the carrier gas and exhaust compressors in three amine device, air compressors in benzene device. And SEBW supplied main helium fan and helium gas compressor for high temp gas cooling reactor in cooperation with Tsinghua University, which represents the fourth generation nuke power technology product, as a contribution to China's nuclear power generation equipment to develop the world market.

In 2017, the company made new plan for the whole compressor industry with five targets as chemical compressors, single stage high speed compressors, mechanical vapor recompression(MVR) compressor, suspension compressors, and compressors used in nuke power. And finished the series design for single stage high speed compressor, MVR compressor, suspension compressor, meeting the requirements of the market for the fast reactions and standardized production.

离心压缩机主要产品系列

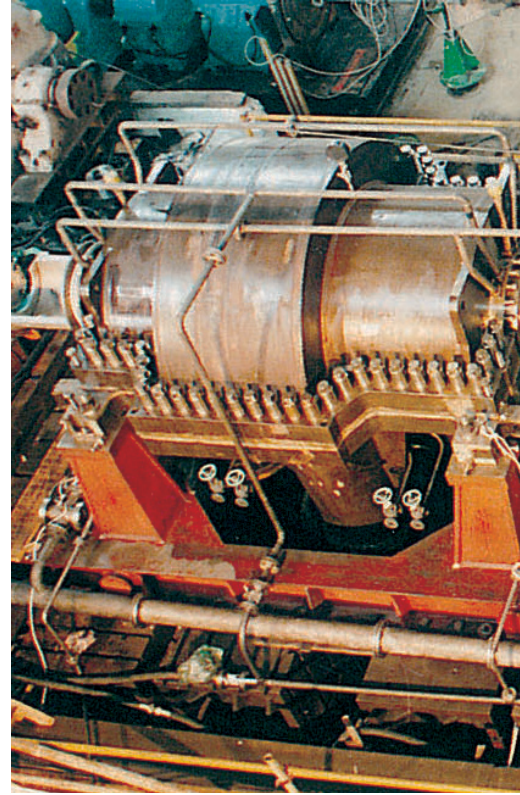
CENTRIFUGAL COMPRESSOR MAIN PRODUCT SERIES

工艺气压缩机

Process gas compressor

上鼓从70年代设计制造中国第一套三合一氧化氮离心压缩机以来，自主设计制造的用于国产第一套30万吨/年合成氨装置中空气离心压缩机获得国家重大技术装备成果一等奖。90年代引进日立离心压缩机技术，并与其合作，主要业绩涉及石化、化工、化肥、电力等行业，主要产品包含原料气压缩机组、富气压缩机组、丙烯压缩机组、乙烯压缩机组、二氧化碳压缩机组以及蒸汽压缩机组。

Since the production of first domestic 3 in 1 nitrogen oxide centrifugal compressor by SEBW in 1970s, the centrifugal air compressor designed and produced for the first 300K tons/year synthetic ammonia unit in China had received the national first reward for important technical equipment. In 1990s, with introduction of technology for centrifugal compressor from Hitachi, and cooperation with them, SEBW supplied many products including feed gas compressor, rich gas compressor, propylene compressor, ethylene compressor, CO₂ and vapour compressor units, in the fields of petrochemical, chemical, fertilizer, and power industries.



空气压缩机

Air compressor

上鼓的单级高速离心压缩机流量覆盖50–2500m³/min。主要业绩涉及核电、化工、电力、环保等行业。

SEBW's single stage high speed centrifugal blower covers the flowrate from 50 to 2500 m³/min, mainly applied in nuclear power, chemical, power plant, and environment protection industries.



蒸汽压缩机

Vapour compressor

上鼓的MVR压缩机流量覆盖2-50t/h。主要业绩涉及生物化工、石化、制药、食品制造、环境保护、海水淡化等行业。

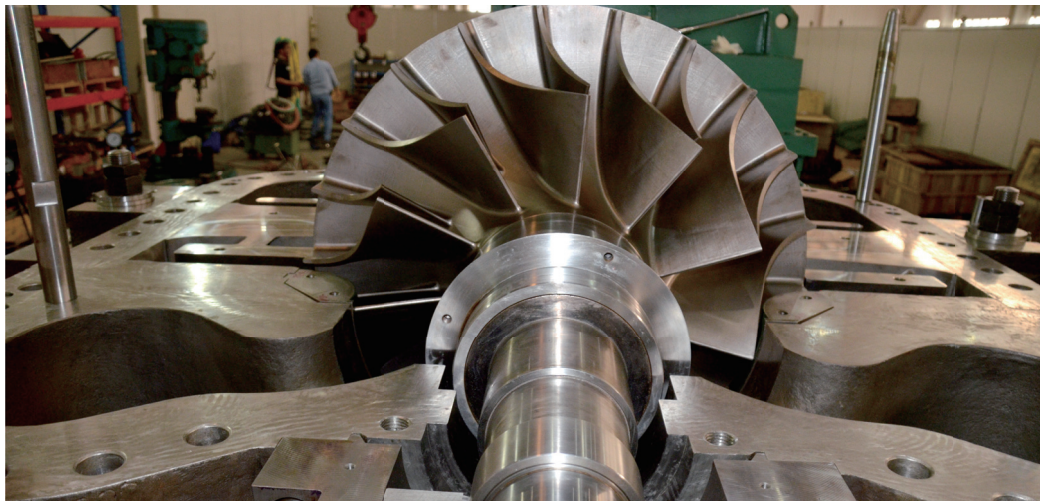
The MVR compressor by SEBW covers the flowrate from 2-50 t/h, mainly applied in biochemical, petrochemical, pharmacy, food, environmental, and desalination industries.

悬浮压缩机

Suspension compressor

上鼓的悬浮压缩机流量覆盖100-400m³/min。主要业绩涉及核电、化工、电力、环保等行业。

The suspension compressor by SEBW covers flowrate 100-400m³/min, applied mainly in nuclear power, chemical, power plant, environmental industries.



电站风机 POWER PLANT FANS

上鼓是中国最大的电站锅炉风机供应商，从1979年以来，为数百家电站提供了数千台的锅炉送引一次风机，国内市场占有率近50%，最大机组容量达1350MW（淮北平山电厂二期）。公司生产的电站风机已遍及美国、法国、日本、意大利、挪威、土耳其、伊朗、印度及东南亚数十个国家和地区。我公司电站轴流风机荣获至今为止唯一的风机类国家质量金奖。

The company is the biggest fan provider for power plant boiler in China, since 1979, had provided FD, ID, PA fans for thousands of boiler units in hundreds of power stations, with market share nearly to 50% domestically. The biggest unit is 1350MW(HuaiBei Pingshan Power Station Phase II). The power station fans from our company has been exported to global wide such as USA, French, Japan, Italy, Norway, Turkey, Iran, India and other south Asia countries. The power plant axial fan made by SEBW received only national gold reward in fan industry.



高温空气循环再热轴流式风机 HIGH TEMP AIR RE-CIRCULATING FANS



高温空气循环再热风机的作用是将炉膛中的高温烟气抽出，并与冷一次风和送风混合送入炉膛燃烧，有效提高了锅炉送风温度，节省燃料，提高锅炉效率。

该风机运行温度高，普遍运行工况超过500℃，最高接近600℃，运送介质为未经除尘处理的烟气。

600MW燃煤电站锅炉高温空气循环再热轴流式风机，以不带扩压装置的模型级进行设计以缩短轴向跨距，风机出口配有转向弯道，采用了国际上先进的CDA可控扩散叶型和不等间距倒流设计法，提升流场品质，装置效率高达83%，达到国际先进水平。

High temp air re-circulating fans induce the high temp flue gas from the boiler, mixed with FD and PA fan flow, and delivers to the furnace, effectively raising the temperature of boiler air feeding and saving the fuel.

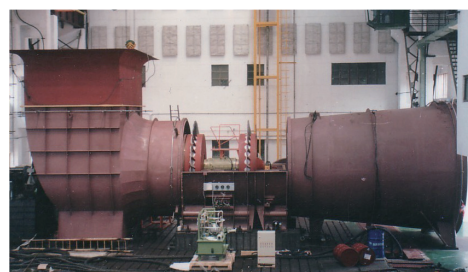
The fan has a high operating temperature over 500℃ and nearly 600℃ at the maximum for normal operating conditions, the medium handled is flue gas without the removal of dust.

The high temp air re-circulating axial flow fan for 600MW coal units, applies the design with no diffuser, which shortens the axial span, and the elbow is placed on the exit of the fan. The advanced CDA controlled diffusion airfoil design and unequal distance backflow calculation method are applied to raise the flow field quality, enabling the device efficiency up to 83%.

三合一风机 3 IN 1 FAN

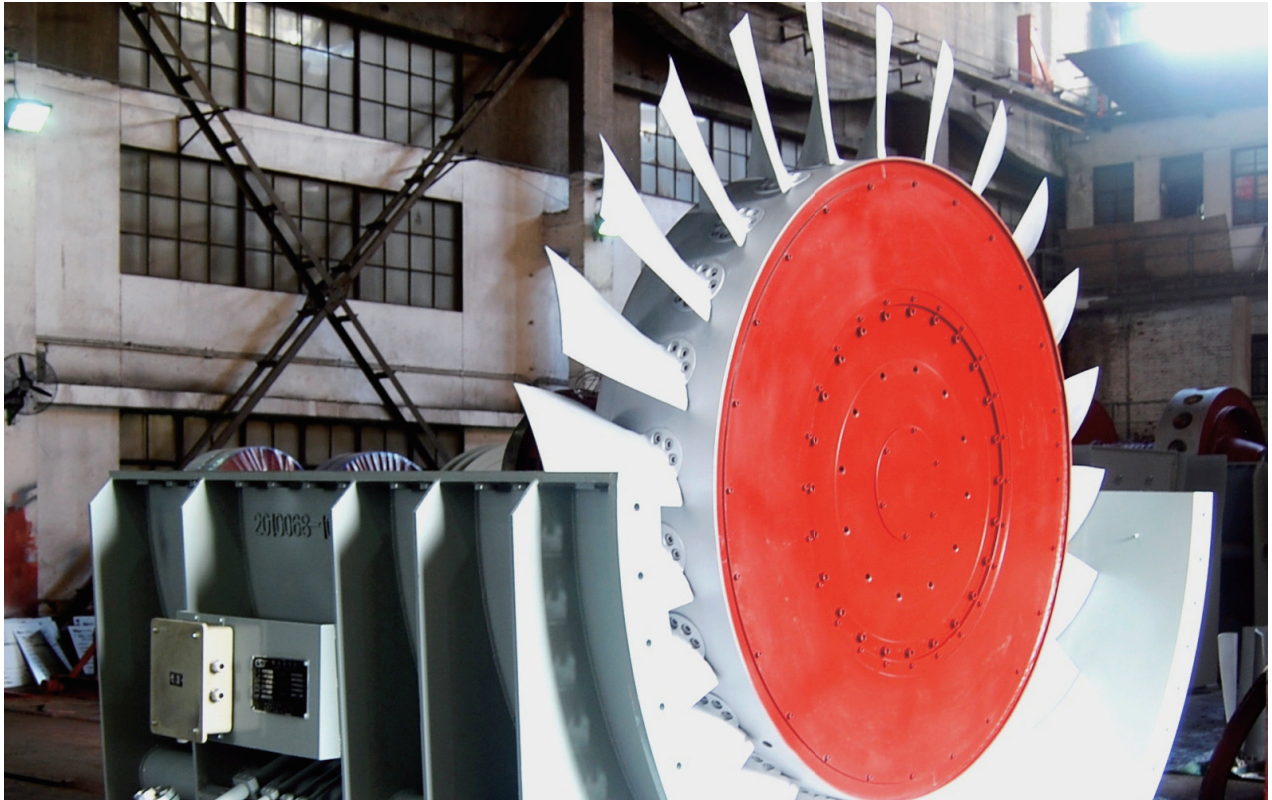
为适应环保节能要求，上鼓自主开发了集锅炉引风、SCR脱硝增压、FGD脱硫增压三大功能于一体的联合风机，产品结构紧凑可靠，绿色节能，效率高达90%。自2003年彭城电厂推出第一台产品以来，累计生产800台以上。产品覆盖200MW-1350MW火电机组，销往世界各地（包括日本、欧美等发达地区），性能世界领先。

To suit the requirements for environmental protection, the company developed the combined fan unit integrating boiler ID fan, SCR de-nitrogen boost fan, and FGD desulfurization boost fan together, with compact & reliable structure, energy saving effect, and the efficiency up to nearly 90%. Since the first product was installed in Pengcheng power plant in 2003, over 800 sets are supplied, covering the power units from 200MW to 1350MW. With the good performance, the fans are exported to the world market (incl. Japan, Europe and North America).



冶金建材风机

FANS FOR METALLURGICAL AND CONSTRUCTION MATERIAL INDUSTRIES



在冶金领域，上鼓通过吸收再创新，开拓冶金及建材等行业大型工业风机市场，成功设计制造了应用于烧结，除尘，转炉，水泥生产等流程的关键风机设计。

In the field of metallurgical, thru the introduction and innovation, SEBW exploited the large size fan market in the metallurgical, construction material industries, successfully designed and made fans used in sintering, deducting, converter, cement applications.

干法除尘风机 DRY DEDUCTING FANS



在国家积极发展绿色环保能源，着力提升节能减排水平的时代背景下，上鼓研制了适用于钢厂转炉炼钢干法除尘风机，此风机系统的耗电量及耗水量低至原来的1/3，满足了冶金行业降低能耗的需求，该产品对于用户发展绿色环保能源，提升节能减排能力具有积极的意义。

Under the requirements for emission reduction and national call for green energy sources, SEBW developed the de-dusting fans for dry de-dusting application used in the steel works converter. Power and water consumption is only 1/3 of the original, meeting the requirements for lower energy consumption in the metallurgical industry, significant for the nation's efforts towards green energy source and emission reduction.



矿井主扇风机

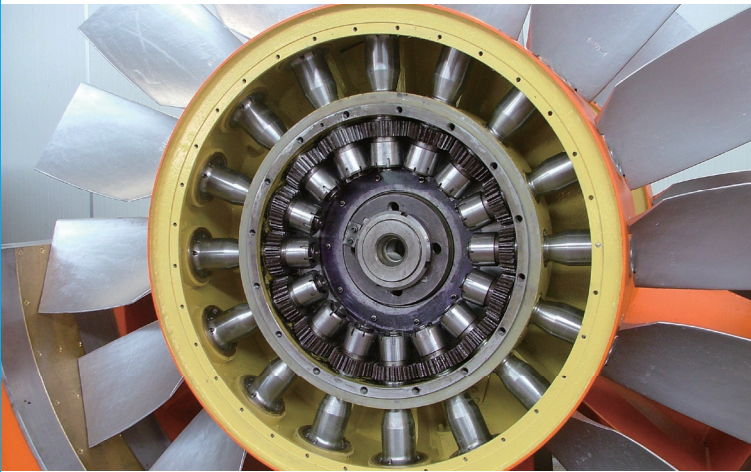
MAIN VENTILATION FAN FOR MINES

上鼓首创采用GAF动叶可调轴流式风机作为矿井中央风井的主扇风机，并又自主开发设计制造了大型液压动叶可调矿井轴流风机，双级动叶可调矿井轴流风机，变频可调矿井轴流风机。二十多年来，其节能、低噪声，尤其是可靠的工作运行得到了国内采矿业的普遍认可。

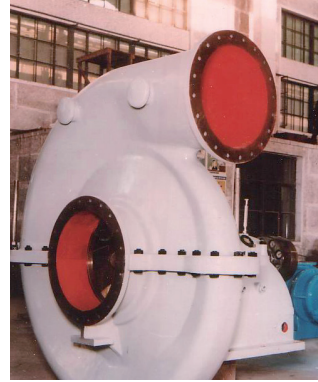
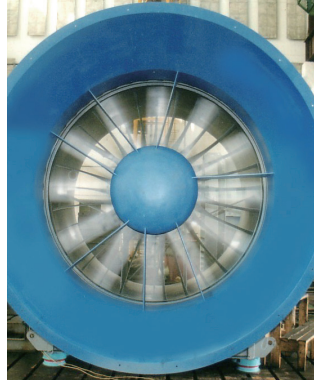
目前国内第一台采用动叶可调技术的矿井主扇风机已在淮南潘一矿投入运营，目前中国最大的双级叶轮矿井风机应用于山西阳煤集团，直径为4.2米。

GAF variable pitch axial flow fan used for main ventilation fan of mines is firstly adopted by SEBW, the large hydraulic blade adjustable, double stage blade adjustable and variable frequency axial flow fans for mine ventilation receive the wide appreciations in domestic mining industry in last 20 years for the merits of energy saving, low noise, and reliability.

The first domestic hydraulic blade adjustable mine ventilation fan has been in operation in Huainan Panyi mine, and the biggest double stage mine ventilation fan with diameter 4.2m is applied in Shanxi Yangmei Group.



其他风机 OTHER FANS



上鼓作为国内最早生产常规通风机，透平鼓风机和罗茨风机的厂商之一，其系列众多，规格型号覆盖面广，近年来为隧道，地铁，纺织，船舶，通风，污水处理等行业提供了近20万台套风机产品，得到了广泛好评。

As the one of earliest domestic manufacturer for fans, turbo blowers, and Roots blowers, SEBW had provided nearly 200,000 sets of fan products with multiple series, wide range of specifications and types, for tunnels, metro, textile, shipbuilding, ventilation, water treatment and other applications. The products enjoy wide appreciation from the market.



核电压缩机主要产品系列 NUCLEAR POWER COMPRESSOR

氦气压缩机

Helium compressor

氦气压缩机组是高温气冷堆项目的重要设备，该机组为高温气冷堆的反应堆系统输送燃料球，为装卸系统气力输送及管路吹扫，为停堆系统输送吸收球，以及为净化系统提供氦气输送。

Helium gas compressor unit is an important equipment in high temp gas cooling reactors. The compressor supply fuel ball for the reactor system, the gas for the assemble and disassemble system, the absorb ball for stop system, the gas for the clean-up system.



高温气冷堆主氦风机

High temperature gas cooled reactor main fan

主氦风机组是高温气冷堆项目的核心设备，该机组驱动高温气冷堆一回路氦气流过反应堆堆芯，在反应堆正常启动、运行和停堆等工况时，提供足够流量的氦气通过一回路系统，将反应堆堆芯产生的热量带走，流经蒸汽发生器，经主氦风机加压后返回反应堆堆芯，实现能量交换。

Main helium fan blows the helium gas thru the first circuit in reactor core, is a key equipment for high temp gas cooling reactors. In the time of normal startup, operation, and stoppage for the reactor, the fan supplies enough helium gas going thru the first circuit system, bringing away the heat, flowing thru steam generator, and impels the gas back to the reactor core after the pressurization.



大型风洞风机系统

LARGE WIND TUNNEL FAN SYSTEM

用于同济大学上海地面交通工具风洞中心气动声学风洞的动力系统风机型号为WAF85-45.1-1，直径为8.5米，是我国汽车整车风洞中现代化程度最高的高效、高精、低噪动力系统。它的落成结束了我国没有大型现代化汽车风洞的历史，上海也由此跻身世界五大汽车风洞产业基地之列。

低温超跨音速风洞被誉为风洞行业皇冠上的明珠，低温压缩机是其中的心脏，研制难度极大，目前正由上鼓为主进行研制，将全面填补国内大型风洞的空白，为我国自主研发大型风机和国防事业做出贡献。



WA85-45.1-1, the dynamic system of the aerodynamic acoustic wind tunnel used in Shanghai Ground Traffic Vessel Wind Tunnel Center in Shanghai Tongji University, is the most modernized dynamic system with high efficiency, high precision and low noise in the automobile in the tunnels in China. It marks the finish for history that there is no large modernized automobile wind tunnels, and it makes Shanghai within top 5 auto wind tunnel industry bases in the world.

Low temperature ultra-transonic wind tunnel is known as the crown pearl of the wind tunnel industry, low-temperature compressor is the heart of it, the developed by SEBW. It will fill the gap of large-scale wind tunnel in china domestic market, for China's independent research and development of large-scale fan and contributing national defense.



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