



PRODUCT MANUAL

产品手册

山东格瑞德集团 SHANDONG GRAD GROUP

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让人工环境更美好
MAKE THE ARTIFICIAL ENVIRONMENT BETTER

集团简介

格瑞德 1993 年建立于山东德州，目前是一家围绕人工环境，横跨新能源、新材料、装备制造、节能环保、信息技术五大战略新型产业的企业集团。格瑞德进行全球化业务运作，产品和服务遍布全国的每一个省市和全球五大洲的 100 多个国家和地区，广泛应用于基建工程、商业地产、工业制造、农业开发、电子信息、车辆工程、环保处理、医药净化、海洋工程、轨道交通等领域。格瑞德从业人员过万人，在山东、贵州、四川、新疆、内蒙等地建有生产基地，在上海、北京、济南、兰州以及美国洛杉矶建有研发中心。

格瑞德致力于让人工环境更美好，通过打造空调工程、通风人防、复合材料、环保工程领域的全过程解决方案来满足客户需求，格瑞德构建了包括品牌规划、系统设计、技术开发、产品制造、整体施工、维护服务、检测认证、人才交流、产业集群的全生命周期产业链和产业生态。

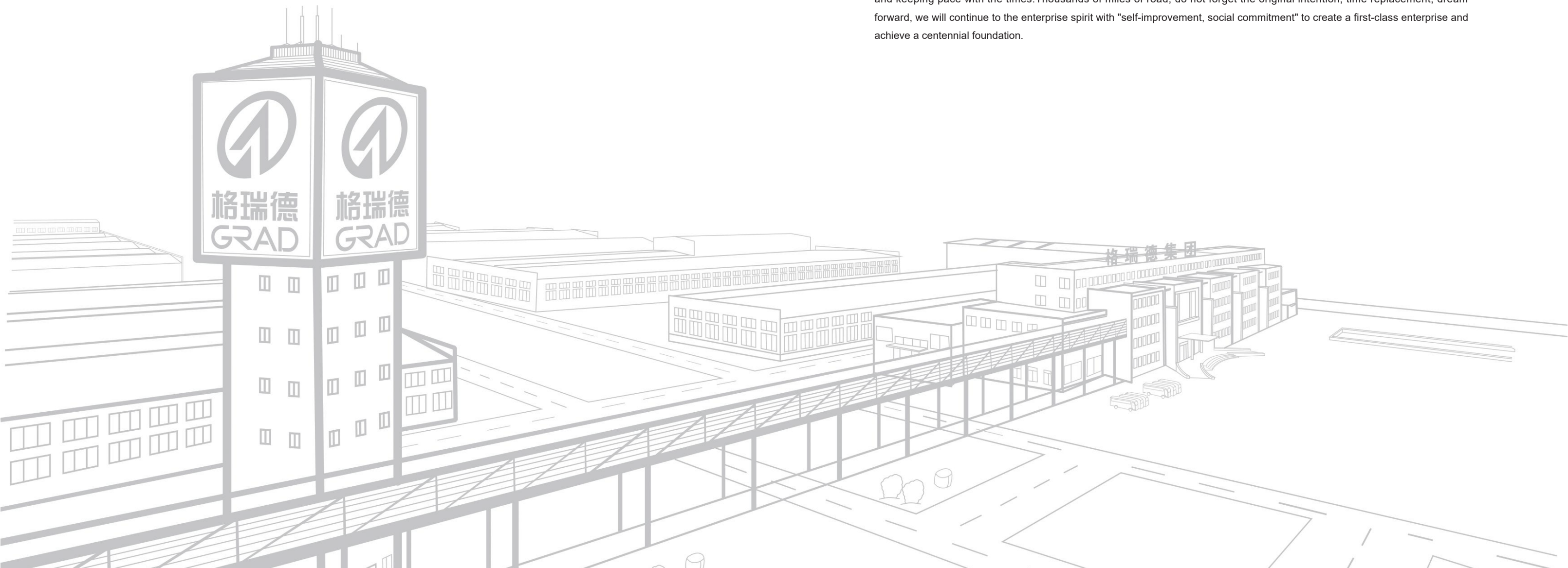
创新和变革，格瑞德通过 500 多项专利技术成果的实现和应用，通过商业模式的不断革新和与时俱进，成就了中国机械 500 强和中国新材料企业重点单位的行业地位殊荣。万里路途，不忘初心，时序更替，梦想前行，我们将继续本着“自强不息，厚德载物”的企业精神创建一流企业，实现百年基业。

Enterprise Introduction

GRAD Group founded in 1993 in Dezhou, Shandong province, that is an enterprise Group focusing on the artificial environment, and spanning five strategic new industries of new energy, new materials, equipment manufacturing, energy conservation and environmental protection, and information technology. GRAD products and services spread around the China and world with 100 countries and regions. They are widely used in infrastructure projects, commercial real estate, industrial manufacturing, agricultural development, electronic information, automobile engineering, medicine, environmental protection treatment, ocean engineering, rail transportation and other fields. With more than 10,000 employees, GRAD Group owned the production bases in Shandong, Guizhou, Sichuan, Xinjiang, Inner Mongolia and so on. And GRAD Group has established R&D centers in Shanghai, Beijing, Jinan, Lanzhou and Los Angeles.

GRAD is committed to making the artificial environment better. It can better meet customer demand through building all-process solutions of air conditioning engineering, ventilation civil air defense, composite materials and environmental protection engineering. GRAD constructed the whole life cycle industrial chain and industry ecology including brand planning, system design, technology development, product manufacturing, the overall construction and maintenance services, inspection certification, talent exchange and industrial cluster.

Innovation and reform, GRAD gained top 500 China Machine and China's new materials enterprise key units through the realization and application of more than 500 patented technology achievements, through the continuous innovation of business model and keeping pace with the times. Thousands of miles of road, do not forget the original intention, time replacement, dream forward, we will continue to the enterprise spirit with "self-improvement, social commitment" to create a first-class enterprise and achieve a centennial foundation.



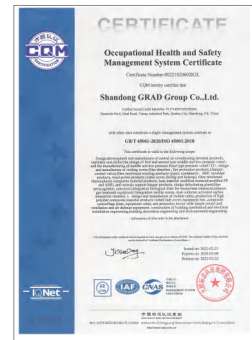
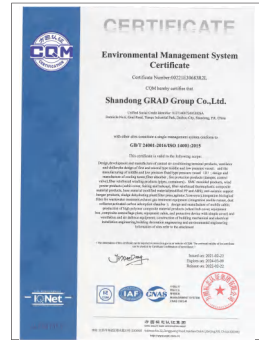
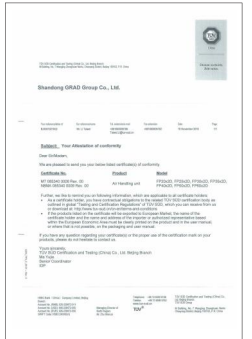
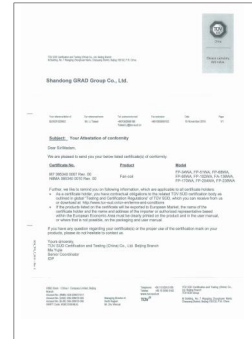
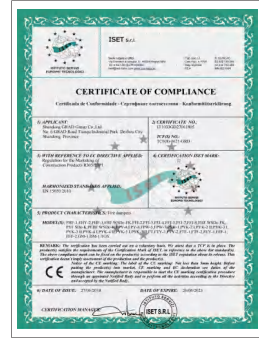
品牌寓意

标志以“GRAD”的字母为造型基础，表达格瑞德的企业特点。标识的造型图案为充满动感的椭圆形象，象征企业不断发展、永不停步。由“A”演变而成的箭头形象，表现出企业强劲的发展势头。标志的隐含图形“1”则表达了企业永远追求第一的精神，也寓示着企业美好的未来。格瑞德与GRAD的基本含义：盖世、如意、安顺、大发；高远、人本、和谐、德馨。

Letters "GRAD" are the base of the logo with showing Grad's characteristics. The ellipse kintetic design symbolizes our group constant development,and never stop fighting for NO.1. Arrowhead "A"shows our company powerful development.The meaning of GRAD: peerless,all the best,make a fortune,ambitious,humanistic,harmonious and virtue.

企业资质

格瑞德集团屡获殊荣，拥有国家机电设备一级安装资质、净化空调二级安装资质，是省安全标准化机械制造二级达标企业。公司全面通过ISO9001、ISO14001和OHSAS18001三体系认证，集团生产的制冷设备、输水管道均获得了全国工业产品生产许可证，压力容器获得了国家特种设备设计、制造许可证，制冷主机、风机获得国家节能产品认证。我司的主机、空气处理机、风盘产品获得美国AHRI认证，风机、风盘、风口阀等产品获得CE认证；风机产品检测后取得AMCA认证，复合材料管道及格栅取得ASTM检测报告。凝聚自强，追求卓越，不断突破创新，产品精益求精。格瑞德发展的脚步令世人瞩目。



Enterprise Qualification

GRAD has been entitled many honors--national mechanical and electrical equipment installation level 1, purification air conditioners installation level 2 and it is the secondary qualified enterprise of safe standardized machinery fabrication in Shandong. GRAD has passed the ISO9001, ISO14001 and OHSAS18001 three system certification. The refrigeration equipment and water transmission pipe have gained national industrial products production license. The pressure vessel has gained national Special equipment design and fabrication license. The refrigeration chiller and ventilators have gained national energy saving certificate. The chiller,AHU,fan coil gained the AHRI certificate;The ventilator,fan coil,air vent and dampers gained CE certificate ;The part model of ventilator passed the AMCA certificate;The FRP pipe and grating passed the ASTM test report.Coagulating self-improvement and pursuing excellence, we keep breakthrough and innovation and make our products more and more perfect. GRAD has proceeding world-acclaimed development.

主机系列 Chiller Series



Water cooled centrifugal chiller/heat pump
Environmental refrigerant: R134A
Rated cooling capacity range : 1231-7034kW

离心式冷（热）水机组



Water-cooled screw chiller/heat pump
Environmental refrigerant: R134A
Rated cooling capacity range : 176-2814kW

水冷螺杆机组



Water cooled scroll chiller/heat pump
Environmental refrigerant: R134A
Rated cooling capacity range : 123-2532kW

涡旋式冷水机组



Falling film ground source heat pump
Environmental refrigerant: R134A
Rated cooling capacity range : 247-1971kW

降膜式地源热泵机组



Water cooled scroll cold and hot water unit
Environmental refrigerant: R407C
Rated cooling capacity range : 15-284kW

水冷涡旋式冷热水机组



Water/ground source heat pump
Environmental refrigerant: R134A
Rated cooling capacity range : 246-1406kW

水（地）源热泵



VRF units
Model: 8P~72P
Application: Offices, shops, hospitals, venues, schools, residential buildings and etc.

多联机



Constant temperature & humidity unit
Rated air volume : 1000-12000m³/h

恒温恒湿机



Rooftop package unit
Rated air volume : 1000-16000m³/h

屋顶机



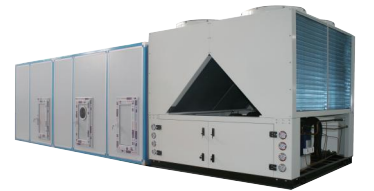
Triple supply air source heat pump (Hot Water)
Rated air volume : 200-10000m³/h

三联供空气源热泵（热水）



Water/Ground source heat pump
Rated air volume : 200-10000m³/h

水/地源热泵



Direct expansion air conditioning unit
Environmental refrigerant: R410A/R407C
Rated cooling capacity : 14.5-720kW

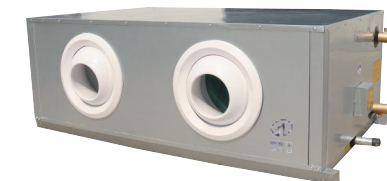
直膨式空调机组

空调器系列 Air Conditioner Series



Purification fan wall air handling unit
Rated cooling capacity : 10000-200000kW

净化风机墙空气处理机组



Jet air handling unit
Rated air volume : 1000-12000m³/h

射流空气处理机组



Ceiling air handling unit
Rated air volume : 1000-16000m³/h

吊顶式空气处理机组



Air cooled screw chiller/heat pump
Environmental refrigerant: R407C/134A
Rated cooling capacity range : 96-546kW

风冷螺杆冷（热）机组



Ultralow temperature air source heat pump
Environmental refrigerant: R407C/410A
Rated cooling capacity range : 32-134kW

超低温空气源热泵机组



Air source heat pump unit
Environmental refrigerant: R410A/R407C
Model: 2P-60P

空气源热泵机组



Fresh air exchange unit
Rated air volume range: 200-10000m³/h

新风换气机组



Quadruple air handling unit
Rated air volume range: 200-10000m³/h

四联供空气处理机组



Combined air handling unit
Rated air volume range: 1000-20000m³/h

组合式空气处理机组



Aplit air conditioner
Type: wall mounted mini split, cassette split, duct split,
Model: 6000btu~24000btu for mini split
18000btu~48000btu for cassette and duct split
Application: residence and light commercial buildings

壁挂机



Ducted split air conditioner
Model: 2 ton-5ton or any required cooling capacity

风管机

通风机系列 Ventilator Series



Vertical concealed fan coil unit
Rated cooling capacity range : 1.8-14kW
Air volume: 340-2380m³/h

FP-LA立式暗装系列



Vertical exposed fan coil unit
Rated cooling capacity range : 1.8-14kW
Air volume: 340-2380m³/h

FP-LM立式明装系列



Horizontal exposed fan coil unit
Rated cooling capacity range : 1.8-14kW
Air volume: 340-2380m³/h

FP-WM卧式明装系列



DTF Axial fire control high-temperature exhaust fan

Model: 3.5-16# Air volume: 3500-120000m³/h
Air pressure: 200-1200pa

DTF轴流式消防高温排烟风机



DTXF Low-noise oblique ventilator

Model: 4-164# Air volume: 3000-110000m³/h
Air pressure: 130-1300pa

DTXF低噪音斜流风机



PYHL-14A Axial fire exhausting ventilator

Model: 2.5-14# Air volume: 446-134892m³/h
Air pressure: 44-3464pa

PYHL -14A轴流式消防排烟风机



Horizontal concealed fan coil unit
Rated cooling capacity range : 1.8-14kW
Air volume: 340-2380m³/h

FP-WA卧式暗装系列



Cassette fan coil unit
Rated cooling capacity range : 1.8-14kW
Air volume: 340-2380m³/h

FP-KM卡式机系列



Floor standing split unit
Model: 18000-96000btu

柜机



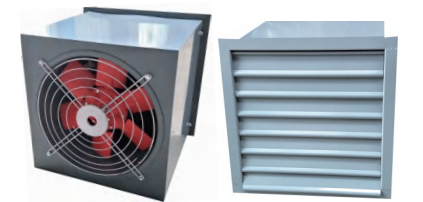
SJG Oblique flow duct ventilator
Model: 2-8# Air volume: 260-25120m³/h
Air pressure: 55-960pa

SJG系列斜流式管道风机



T35-11&BT35-11 Axial ventilator
Model: 2.8-11.2# Air volume: 613-64825m³/h
Air pressure: 32-361pa

T35-11、BT35-11型轴流通风机



DFBZ series square wall mounted axial ventilator
Model: 2.8-11.2# Air volume: 613-64825m³/h
Air pressure: 32-361pa

DFBZ系列方型壁式轴流式通风机



DWT series rooftop ventilator

Model: 3-11.2# Air volume: 1450-56900m³/h
Air pressure: 62-322pa



Centrifugal ventilator

Model: 2.8-6A Air volume: 1131-13353m³/h
Air pressure: 606-3074pa



DFX ventilation box

Model: 10-37# Air volume: 1000-80000m³/h
Air pressure: 200-1000pa

DWT系列屋顶式通风机

离心通风机

DFX通风风机箱



Galvanized plate air duct



Rectangular check valve

Material: steel plate paint, hot galvanized plate, stainless steel plate



Manual opposite split multi-blade airtight valve

Material: steel plate paint, hot galvanized plate, stainless steel plate

镀锌板风管

矩形止回阀

手动对开多叶密闭阀



WEX side wall ventilator

Model: 2.5-9# Air volume: 300-2600m³/h
Air pressure: 30-260pa



HTFC Centrifugal fire and smoke exhaust ventilator

Model: 10-37# Air volume: 2000-8000m³/h
Air pressure: 350-1000pa



Air exhaust fan

Type: wall mounted fan, pipeline fan and window fan
Model: 270~1800m³/h
Application: Toilet and kitchen air ventilation.

WEX边墙风机

HTFC离心式消防排烟风机

排风扇



Fully automatic fire damper

Material: steel plate paint, hot galvanized plate, stainless steel plate



Smoke vent

Material: steel plate paint, hot galvanized plate, stainless steel plate



Motorized multi-blade opposite split adjusting valve

Material: steel plate paint, hot galvanized plate, stainless steel plate

全自动防火阀

排烟口

电动多叶对开调节阀

空调配件系列

Air Conditioner Accessories Series



Polyurethane phenolic composite air duct



Galvanized plate air duct



Glass fiber reinforced plastic air duct

聚氨酯酚醛复合风管

镀锌板风管

玻璃钢风管



Aluminium alloy air vent

Material: Aluminum alloy

铝合金风口



ABS air vent

Material: Plastic

ABS风口



High efficiency air inlet

Material: Aluminum alloy or ABS

高效送风口



机房设备系列

Machine Room Equipment Series



Constant pressure and Replenishment device

定压补水装置



Water supply device without negative pressure

无负压供水设备



Box type water supply device with variable frequency

箱式变频供水设备



Water softener

软化水装置



Plate heat exchanger

板式换热设备



Water divider/collector series

分/集水器系列

冷却塔系列

Cooling Tower Series



GAT cooling tower

Water flow range: 100-700m³/h

GAT冷却塔



CNDC specialized cooling tower for subway

Water flow range: 100-800m³/h

CNDC地铁专用冷却塔



GFNS industrial cooling tower

Water flow range: 800-5000m³/h

GFNS工业型冷却塔



Concrete Cooling Tower

Water flow range: 800 - 5000 m³/h

混凝土冷却塔



Steel structure cooling tower

Water flow range: 800 - 5000 m³/h

钢结构冷却塔



Square cross flow cooling tower

Water flow range: 100-700m³/h
Panel material: FRP, hot dip galvanized, stainless steel

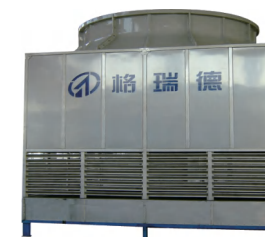
方型横流冷却塔



Round cooling tower

Water flow range: 50-500m³/h

圆形冷却塔



Square counter flow cooling tower

Water flow range: 100-3000m³/h
Panel material: FRP, hot dip galvanized, stainless steel

方型逆流冷却塔



Closed Cooling Tower

Water flow range: 15-600m³/h
Panel material: FRP, hot dip galvanized, stainless steel

闭式冷却塔

水箱系列

Water Tank Series



FRP Water Tank

玻璃钢模压水箱



Stainless steel water tank

不锈钢模压水箱



Galvanized water tank

镀锌水箱

复材系列

Composite Material Series



FRP pipe

Specification: DN50~DN4000mm、PN0.1~3.2MPa、SN1250~SN20000N/m2



FRP pipe with sand

Specification: DN10~DN3000mm、PN0.1~2.5MPa、SN1250~SN20000N/m2



FRP cable pipe

Specification: DN25~DN300mm

玻璃钢工艺管

玻璃钢夹砂管

玻璃钢电缆套管



Vertical FRP storage tank

Specification: DN100~DN4200、0.5~160m3



Large FRP storage tank

Specification: DN100~DN4200、0.5~125m3



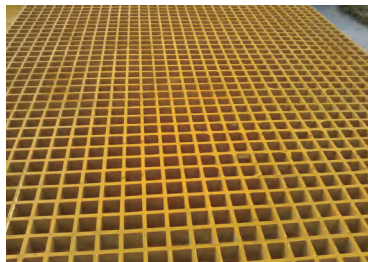
Horizontal FRP storage tank

Specification: DN100~DN30000、0.5~7000m3

玻璃钢立式储罐

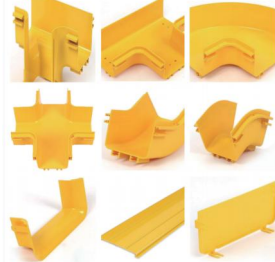
玻璃钢大型储罐

玻璃钢卧式储罐



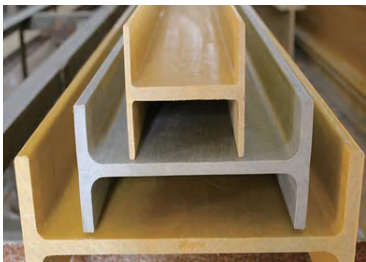
Grating

Material: FRP



Cable Rack

Material: Plastic products



Pultrusion profile

Material: FRP steel

格栅

电缆桥架

拉挤型材

净化设备系列

Purification Equipment Series



Air shower



DSG5-70W Photohydrogenion purifier



Experiment table

风淋室

DSG5-70W光氢离子净化器

实验台



Work table



High-efficiency filter



High-efficiency filtering air inlet

工作台

高效过滤器

高效过滤送风口



Unit-type photocatalytic air purifier



Fan coil photocatalyst purifier



Air duct electronic purifier

机组式光触媒空气净化器

风机盘管光触媒净化器

风管式电子净化器

环保设备系列 Environmental Protection Equipment Series



Activated carbon adsorption desorption catalytic combustion equipment
Air volume: 10000-160000Nm³/h

活性炭吸附脱附+催化燃烧设备



Small catalytic combustion equipment CO
Air volume: 10000-160000Nm³/h

小型催化燃烧设备CO



Small direct combustion equipment TO
Air volume: 10000-160000Nm³/h

小型直燃设备 TO



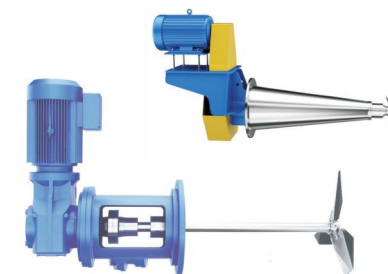
Cryogenic drying machine equipment
Dehumidification ratio: 1: 4.2

低温干化机设备



Dosing machine
Configuration concentration: 0.1%-0.5%

加药设备系列



Mixing equipment

搅拌设备系列



Zeolite rotating wheel +co integrated machine equipment
Air volume handling range: 10000-150000m³/h

沸石转轮+co一体机设备



Photooxidation and Plasma Machine
Deodorization efficiency: ≥99.9%

光氧化与等离子一体机



Spray tower
Treatment efficiency: ≥90%

喷淋塔



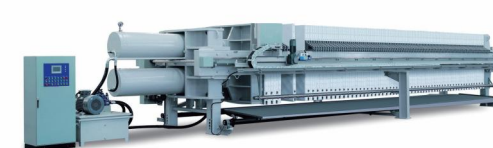
Conveyor

输送机系列



Delt Conveyor

皮带输送机



Program controlled Membrane filter press

程控隔膜压滤机



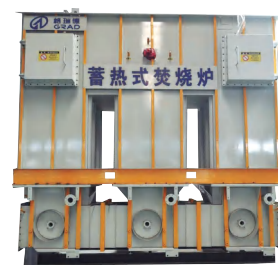
Spray Washing Equipment
Dust removal rate: ≥99.9%

布袋除尘设备



Microwave Synergy Ultraviolet Photolysis Microwave Photooxidation Equipment
Rated air volume: 11000-31000CMH

微波协同紫外光解+微波光氧设备



RTO thermal storage equipment
Treatment efficiency: ≥99%
Heat transfer efficiency: ≥95%

RTO蓄热设备

经典业绩 Classic Performance

专业的制冷空调设备供应商和服务商，能够提供完整的中央空调系统的解决方案，格瑞德集团以高端的中央空调技术服务国际市场的同时，团结行业内的力量，共同为社会，为客户创造舒适的生活环境。

格瑞德集团在各大城市建立起营销服务平台，咨询、设计、服务于一体，让客户得到最满意的服务。

我们的业绩还在不断的刷新，

这充分说明我们的产品正在被更广泛的用户应用与认可。

我们的境外工程也不断受到好评，

这增强了我们努力开拓国际市场的信心和决心。

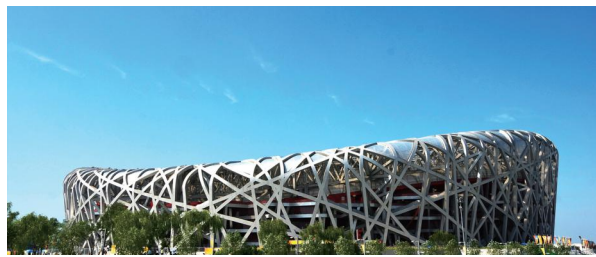
As professional supplier and service provider for refrigeration equipment, we can offer complete solution for the whole central air conditioning system. GRAD serves the international market with its high end central air conditioning technology. Meanwhile, it unites the power inside the industry to contribute comfortable living environment to both the society and the customers.

GRAD group has founded marketing and service platform in every large cities, which combines the consultant, design and service into one. And we will offer customers the most satisfied service.

We keep refreshing our achievements, which can fully indicate that our products are more and more widely applied and recognized by the users.

Our foreign projects are also well applauded, which strengthens our confidence and determination to develop international market.

大型场馆 Large Stadium



■ National Stadium of China (Bird's Nest)
中国国家体育馆（鸟巢）



■ National Aquatics Center (Water Cube)
国家游泳中心（水立方）



■ Friendship Exhibition Center project between China and Bangladesh
孟加拉国中孟友谊展览馆



■ Stadium Project in Cambodia
柬埔寨体育场

商业住宅 Commercial Residential Building



■ Shaw Center Mall in Mandaluyong, Philippines
菲律宾曼达卢永Shaw Center商场



■ Kinshasa National Culture and Art Center of Congo (DRC)
援刚果（金）金沙萨中部非洲国家文化艺术中心

机关院校 Units and University



■ Kindergarten Project in Jamaica
牙买加幼儿园



■ University Town of Malaysia
马来西亚大学城

医药净化 Pharmacy and Purification



■ Chinese aid Au CDC headquarter phase I
援建非洲疾控中心总部一期



■ Pharmaceutical Factory in Western Ethiopia
埃塞俄比亚西部药厂

轨道交通 Railway Traffic



■ Beijing Subway Line 10
北京地铁十号线



■ The Airport Project in Cuito, Angola
安哥拉奎托机场

国际营销网络 International Marketing Network

