



中国建材

合肥水泥研究设计院有限公司

Hefei Cement Research & Design Institute Corporation Ltd

COLLECTION OF PRODUCTS & TECHNOLOGY

产 品
名 录



粉磨 热工 环保 自动化控制和计量 通用设备 钢结构



HRM SERIES VERTICAL ROLLER MILL

HRM系列立式辊磨机

概述 Introduction

HRM系列立式辊磨机是在广泛吸收国外先进技术的基础上，融入合肥水泥研究设计院二十年来的研究设计经验，开发出的高效节能、具有烘干兼粉磨功能、系列化的高新技术装备，设备的主要技术、经济指标达到国际先进水平。

HRM系列立式辊磨机于1994年获国家级新产品称号，1996年获建材行业科技进步二等奖，2006年获中国建材机械行业名牌，2010年其大型立式磨获国家科技进步二等奖。自1990年以来，该设备已有1000多台在水泥、钢铁、电力、化工、非金属矿等行业投入运行用于石灰石、原煤、矿渣、石膏、叶腊石、方解石、石英等物料的粉磨。本公司的HRM型立式辊磨机远销巴基斯坦、印度、越南、阿联酋、埃及、巴西、土耳其等国家。

HRM series Vertical Roller Mill, the hi-tech equipment developed by HCRDI on basis of combining foreign advanced technology with its own research and design experience in past 20 years, is a grinding machine with drying capability featured by high efficiency and energy-saving. Its main technical and economic indexes have reached the advanced international level.

HRM series Vertical Roller Mill was entitled "New Product" at the state level in 1994; won the 2nd prize for technological progress in building material industry in 1996 and was named as Top Brand Product of China Building Material Machinery Industry in 2006. Large vertical mill gains the second prize of national science and technology in 2010. Since 1990, it has been applied to grinding materials as limestone, raw coal, slag, gypsum, pyrauxite, calcite and quartz, etc, in various industries such as cement, iron and steel, power, chemical and non-ferrous. And it has been sold to countries as Pakistan, India, Vietnam, The United Arab Emirates, Egypt, Brazil, Turkey etc.



特点简介 Characteristics

运行成本低

- ① 粉磨效率高，电耗低，和球磨机相比减少了20~30%的耗电量
- ① 磨耗少，辊套、衬板用特殊材质，使用寿命长，减少了运行成本
- ① 可装备有外部循环装置，能进一步降低电力消耗

建设费用低

- ① 立式磨和球磨系统相比占地面积可减少约50%，建设费用减少约70%

运转容易可靠

- ① 装备有自动控制装置，可实现远程控制，操作简单容易
- ① 装备有防止辊套和磨盘衬板之间直接接触装置，不会出现破坏性剧烈震动

维修方便

- ① 通过检修油缸、翻转动臂，辊套、衬板在很短时间内就能更换

公害少

- ① 振动小，噪音低，系统处于负压运行，无粉尘外溢

产品质量稳定

- ① 物料在磨内停留时间短，易于对产品粒度及化学成分的检测和控制，产品质量稳定

Low Operation Cost

High grinding efficiency, low power consumption. Compared with ball mill, 20~30% the power saving. Low wear and tear. Roller's hard surfacing and lining plates use special quality material, the long length of service life contributes to operation cost reduction. It is possible to have an external circulating installation, which can reduce power consumption further.

Low Construction Cost

Comparing with ball mill, land use can be reduced by 50%, civil construction cost can be reduced by 70%.

Easy Reliable Operation

Equipment is equipped with automatic control devices, remote control can be realized, the operation of the equipment is easy and simple. The equipment has a device which prevents direct contact between roller hard surfacing and the lining plates on mill table. Intense vibration is unlikely.

Convenient Maintenance

By turning the rocker as well as oil jack maintenance, Roller tyre and lining plates can be maintained within short time.

Little Pollution

Vibration is little, noise is low, system is in the operation of negative pressure, causing no out spill of dust.

Stable Product Quality

Retention time in mill is short, control and the detection of product size and chemical composition are made easy.



HRM型立式生料磨规格与性能参数表(水泥行业)

Specification of HRM Vertical Raw Mill(Cement Industry)

规格型号 Type	HRM1500	HRM1700	HRM1900	HRM2200	HRM2800	HRM3400	HRM3700	HRM4200	HRM4800
产量 Output (t/h)	26~34	40~50	55~80	85~110	120~160	190~250	250~320	320~380	400~520
原料水分 Moisture of raw Material	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%	<10%
生料细度 (R _{0.08}) Fineness of raw meal (R _{0.08})	≤12%	≤12%	≤12%	≤14%	≤14%	≤15%	≤15%	≤15%	≤15%
生料水分 Moisture of raw meal (%)	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1
主电机功率 (kW) Main motor power (kW)	280	400	500	800~900	1120~1240	1800~2000	2240~2800	3150~3550	3800~4500

注：原料易磨性 (Band) 指数 ≤13kwh/t Note: Raw material grind ability (Band) Index ≤ 13kwh/t

HRM型立式煤磨规格与性能参数表(水泥行业)

Specification of HRM Vertical Coal Mill(Cement Industry)

规格型号 Type	HRM1250M	HRM1300M	HRM1400M	HRM1500M	HRM1700M	HRM1900M	HRM2200M	HRM2400M	HRM2800M
产量 Output (t/h)	7~12	10~15	12~17	16~22	20~28	26~35	35~45	40~50	50~62
原煤水分 Moisture of raw coal	<15%	<15%	<15%	<15%	<15%	<15%	<15%	<15%	<15%
煤粉细度 (R _{0.08}) Fineness of coal powder (R _{0.08})	≤12%	≤12%	≤12%	≤12%	≤12%	≤12%	≤12%	≤12%	≤12%
煤粉水分 Moisture of coal powder (%)	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1
电机功率 Motor power (kW)	132	185	200	250	315	400	500	560	710

注：1. 原煤哈氏可磨数 ≥55 2. 可用于粉磨无烟煤，煤粉细度 (R_{0.08}) ≤3%，产量相应下降。

Note: 1. Hardgrove grindability index of raw coal ≥55

2. For anthracite grinding, Fineness of coal power (R_{0.08}) ≤3%, capacity goes down correspondingly.

HRM型立式矿渣(水泥)磨系列规格与性能参数表

Specification of HRM Vertical Coal Mill

规格型号 Type	HRM1900S	HRM2200S	HRM2800S	HRM3700S	HRM4500S
产量(矿渣) Output (t/h)	8~12	18~22	55~60	90~100	135~150
产量(水泥) Output (Cement) (t/h)	12~18	27~33	80~90	135~150	190~225
水分 Moisture	<15%	<15%	<15%	<15%	<15%
矿粉细度 (m ² /kg) Fineness of coal powder	420~450	420~450	420~450	420~450	420~450
水泥细度 (m ² /kg) Fineness of cement	360~380	360~380	360~380	360~380	360~380
产品水分 Moisture	≤1	≤1	≤1	≤1	≤1
主电机功率 (kW) Main motor power (kW)	500	900	1800	3550	4550

注：矿渣易磨性 (Band) 指数 ≤25kwh/t, 水泥熟料易磨性 (Band) 指数 ≤19kwh/t



HFCG SERIES ROLLER PRESS

HFCG系列辊压机

概述 Introduction

HFCG系列辊压机是合肥水泥研究设计院（中建材（合肥）粉体科技装备有限公司）具有自主知识产权的高效节能粉磨设备。所研究完成的“挤压粉磨新工艺及设备的研究”、“辊压机节能粉磨技术及设备的研究”等研究成果为矿山、建材行业粉体物料破碎粉磨提供完善的解决方案，并分别获得国家和建材行业科技进步二等奖。采用HFCG辊压机构成的粉磨系统，电耗及产品物性等主要技术经济指标均达到当今国际先进水平。产品销量世界第一，累计已达1500余台。

HFCG Series of Roller Press is high efficiency energy saving grinding equipment which has developed by Hefei Research & Design Institute [CNBM(Hefei) Powder Technology Equipment Co.,Ltd.] with independent intellectual property right. These research and development projects such as "Roller Press Grinding New Process and Equipment" and "Roller Press Grinding Technology and Equipment For Energy Conservation" has provided better solutions for grinding powder in the mining, building materials industry, and they were rewarded silver medals respectively at the state level and at the sector level. The grinding system with HFCG roller press is adopted, of which main technical and economic indicators such as power consumption and physical features have reached the international advanced level at nowadays. The total sales of HFCG roller press has reached 1500 sets, ranking first in the world.



特点简介 Characteristics

- ① 先进的辊套式结构及辊面耐磨工艺使辊面寿命可实现8000~30000小时
- ① 柔性恒压力设计理念和独特的结构设计，使液压系统稳定可靠
- ① 简捷的扭矩支承装置使辊压机运行时更加平稳
- ① 先进的检测和自动化控制系统保证了辊压机安全平稳的运行
- ① The advanced structure of roller sleeve and the process of roller surface wear resistance could make the service life of roller surface between 8000 and 30000hrs.
- ① The hydraulic system could operate more reliable with the design of flexible constant pressure and unique structure.
- ① Roller press runs more stably with a compact torque supporting unit.
- ① The advanced detection and automation control system ensure a safe and smooth running of roller press.





○ 水泥行业--辊压机(HFCG) Cement Industry--Roller Press (HFCG)

产品系列 Series	规格型号 Type	辊子直径 Diameter of roller (mm)	辊子宽度 Width of roller (mm)	入料粒度 Feeding size (mm)	电机功率 Motor Power (kW)	通过量 Throughput (t/h)
120系列 120 Series	HFCG120-45	1200	450	≤50	2X220	125~150
	HFCG120-50	1200	500	≤50	2X250	140~165
	HFCG120-80	1200	800	≤25	2X250	85~100
140系列 140 Series	HFCG140-65	1400	650	≤60	2X500	240~295
	HFCG140-70	1400	700	≤60	2X500	260~315
	HFCG140-80	1400	800	≤60	2X500	295~360
150系列 150 Series	HFCG150-100	1500	1000	≤60	2X710	415~500
160系列 160 Series	HFCG160-120	1600	1200	≤70	2X900	580~670
	HFCG160-140	1600	1400	≤70	2X1120	680~780
180系列 180 Series	HFCG180-160	1800	1600	≤70	2X1600	950~1100
200系列 200 Series	HFCG200-180	2000	1800	≤70	2X2000	1450~1700

○ 矿山行业--辊压机(HFCG) Mining Industry--Roller Press (HFCG)

产品系列 Series	规格型号 Type	辊子直径 Diameter of roller (mm)	辊子宽度 Width of roller (mm)	入料粒度 Feeding size (mm)	电机功率 Motor Power (kW)	通过量 Throughput (t/h)
140系列 140 Series	HFKG140-50	1400	500	≤30	2x400	360
150系列 150 Series	HFKG150-60	1500	600	≤30	2x500	470
	HFKG150-80	1500	800	≤30	2x630	620
160系列 160 Series	HFKG160-100	1600	1000	≤30	2x900	830
	HFKG160-120	1600	1200	≤35	2x1120	1000
	HFKG160-140	1600	1400	≤35	2x1250	1170
180系列 180 Series	HFKG180-100	1800	1000	≤35	2x1000	940
	HFKG180-120	1800	1200	≤35	2x1250	1120
	HFKG180-140	1800	1400	≤35	2x1400	1300
200系列 200 Series	HFKG200-120	2000	1200	≤40	2x1600	1420
	HFKG200-160	2000	1600	≤40	2x2000	1900
220系列 220 Series	HFKG200-160	2200	1600	≤40	2x2240	2100
240系列 240 Series	HFKG200-180	2400	1800	≤40	2x3150	2660

说明 Notes:

1. 产品粒度可分别满足0.045mm到3mm区间内的任何要求。

Product Size could satisfy the requirements which is in the range 0.045mm to 3mm.

2. 上两个表为部分型号, 仅供选型参考, 我们还提供用于有色冶金, 工业废渣的各种规格型号的设备, 详情请与我单位联系。

The above two tables only include a part of models for reference, we also provide many other specification equipments which could be used in nonferrous metallurgy and industrial waste. Please contact us for more information.

HIGH FINENESS HIGH OUTPUT SCREENING MILL TECHNOLOGY

高细磨、高产磨、筛分磨技术

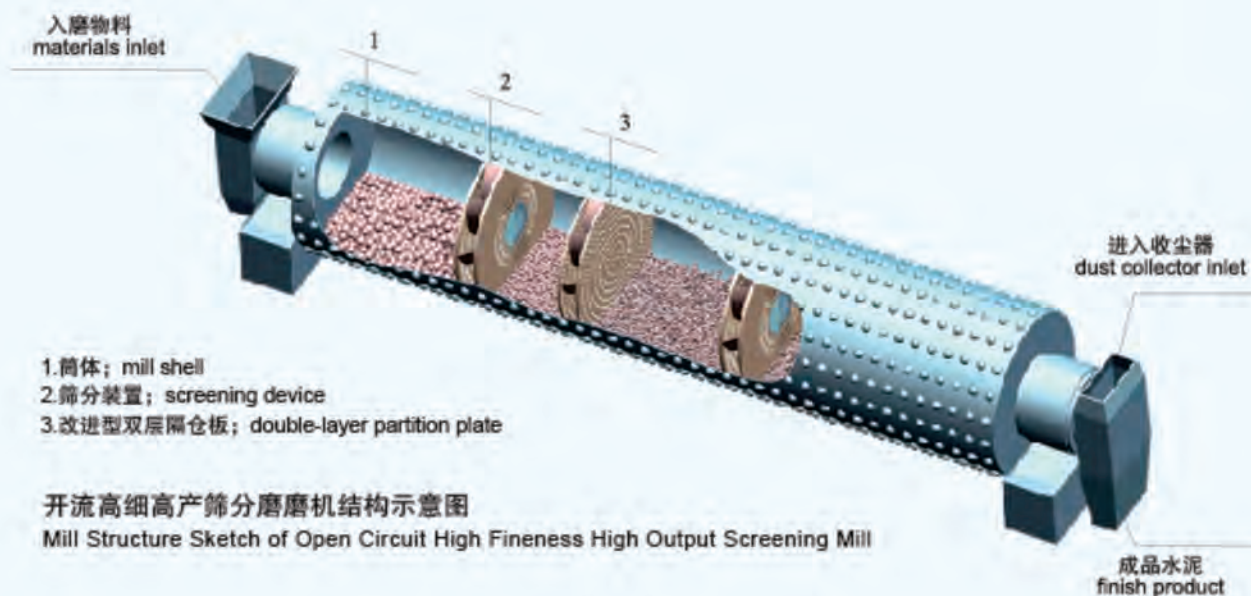
概述 Introduction

高细磨、高产磨、筛分磨技术是一项针对球磨机提高粉磨效率的技术，通过在磨机内部采用具有磨内选粉功能的新颖筛分隔仓装置，减少了磨机的过粉磨现象，通过采用微型研磨介质，提高了磨机的粉磨效率，通过采用活化衬板及流速控制等措施，强化了粉磨作业，从而达到增产节能的目的。

本技术获得美国发明专利，获得国家发明专利，获得国家科技进步二等奖。该技术在我国成功地应用了千台以上磨机，取得了良好的经济效益和社会效益。

High fineness, high output screening mill technology is a technology improving grinding efficiency for the ball mill. The new screening partition plate with the function of separating is installed in the mill to reduce over-grinding condition. The micro grinding medium is used to increase grinding efficiency. The removable liners and flow speed control measures are taken to strength grinding operation. Thus it achieves the goal of output increasing and energy saving.

The technology obtained U.S. Invention Patent, China Invention Patent and 2nd award of Scientific and Technological Advancement at the State Level. It has been successfully applied to more than 1000 sets of mills, which has brought good economic and social benefits.





特点简介 Characteristics

- ① 适用于各种水泥粉磨系统，达到增产20~40%、节电17~30%、改善水泥性能的效果
- ① 适用于开流和圈流各种粉磨流程
- ① 特别适合于与辊压机组成的挤压联合粉磨系统
- ① 特别适合于矿渣微粉、钢渣微粉、超细粉煤灰的粉磨，比表面积可达到500~700m²/kg
- ① 已成功用于氧化铁粉（平均粒径6μm以下）、脱硫石灰石（325~400目）、高细胶凝材料（600~700m²/kg）的粉磨
- ① 改造的投资省、时间短、见效快
- ① It is applicable to all kinds of cement grinding system with an increase of output by 20~40% and with power saving by 17~30% while improving cement quality and performance.
- ① It is applicable to both open circuit and close circuit grinding processes.
- ① It is especially suitable for combined grinding system with the roller press.
- ① It is especially suitable for the grinding of slag fine powder, steel slag fine powder, super-fine fly ash with specific area up to 500~700m²/kg.
- ① It has been successfully applied to the grinding of iron oxide powder (average size ≤ 6 μ m), desulfated limestone (325~400 mesh) and superfine cementing materials (600~700m²/kg).
- ① It has such advantages as low investment, small time consumption and quick return in technological modification.

规格与性能参数表 Specification

规格型号 Type	42.5水泥产量 42.5cement output(t/h)			矿渣微粉产量 Output of fine slag powder (t/h)	电机功率 Motor power (kW)	研磨体装载量 Loading of grinding medium(t)
	开流磨 Open circuit mill	圈流磨 Close circuit mill	球磨机+辊压机 Ball mill + roller press			
Φ2.4×13	≥24	≥28	35~50	12~14	800	66
Φ2.6×13	≥30	≥35	40~60	15~17	1000	80
Φ3.0×11	≥36	42	50~70	20~22	1250	100
Φ3.2×13	≥48	≥55	65~110	24~26	1600	135
Φ3.8×13	≥75	≥88	100~150	43圈流 43 Close circuit	2500	180
Φ4.2×13	96	≥105	140~240	55圈流 55 Close circuit	3550	240
Φ4.6×14	≥125	≥145	180~300		4200	290



HFX SERIES HIGH EFFICIENCY SEPARATOR

HFX系列高效选粉机

概述 Introduction

合肥水泥研究设计院从1959年就组建了分选技术研究团队。在国内首家研制出第三代高效选粉机，首家将高效选粉机应用到生料、煤磨系统中，首家配套辊压机构成联合粉磨、生料终粉磨、水泥半终粉磨系统等。先后被授予“国家级新产品”、国家级“优秀节能成果”奖、建材行业名牌产品、建材行业科技进步二等奖等。近年来获得发明专利五项，实用新型专利二十多项，在国家一级期刊上发表论文几十篇。拥有知名品牌DS和HES高效选粉机，以及HFVW卧式动态选粉机。近期，又综合了各种选粉机的优点开发出了HFX系列高效选粉机，选粉效率比其它高效选粉机高出十多个百分点；提高水泥的 $3\sim 30\mu\text{m}$ 颗粒含量，提高水泥强度；降低生料的 $200\mu\text{m}$ 筛余，提高生料易烧性；降低煤粉的 $80\mu\text{m}$ 筛余，满足低品位煤质的燃烧要求；根据差异化需求选用不同种类的选粉机，能满足50目~1250目的各种粒径的分选。

Hefei Cement Research & Design Institute established separation technology research team in 1959. It firstly developed the 3rd generation of high efficiency separator domestically, firstly applied high efficiency separator in raw mill and coal mill system, and firstly together with roller press made up combined grinding, raw meal final grinding, cement semi-final grinding system and so on. It was awarded “New Product at the State Level”, “Excellent Energy Saving Fruit at the State Level”, “Famous-brand Product in Building Material Industry” and “the Second Prize of Scientific and Technological Advancement in Building Material Industry”, etc. Recently, it won five innovation patents, and more than 20 utility model patents. Dozens of thesis have been published on the national first grade periodical about our famous brands of DS and HES high efficiency separators, and HFVW horizontal dynamic separator. Recently, we have developed HFX series high efficiency separator, which combines advantages of various types of separators and whose separation efficiency is more than 10 percentage points higher than other high efficiency separators. $3\sim 30\mu\text{m}$ granule content and strength of cement are increased. $200\mu\text{m}$ sieve of raw meal is reduced to increase burnability of raw meal; $80\mu\text{m}$ sieve of pulverized coal is reduced to satisfy the burning requirement of low quality coal. Different types of separator are selected to meet the separation of various grain sizes from 50 meshes to 1250 meshes, according to differentiated demand.



侧进风式高效选粉机: 适用于尾卸式球磨机系统

Side inlet air high efficiency separator: be suitable for end dump ball mill system.

规格型号 Type	产量 Capacity (t/h)	风量 Air volume (m ³ /min)	处理量(t/h) Max. feeding capacity (t/h)	功率 Power (kW)
HFX-N250	11 ~ 15	250	45	18.5
HFX-N350	16 ~ 21	350	63	22
HFX-N500	22 ~ 30	500	90	30
HFX-N750	34 ~ 45	750	135	45
HFX-N1000	45 ~ 60	1000	180	55
HFX-N1500	68 ~ 90	1500	270	90
HFX-N2000	90 ~ 120	2000	360	110
HFX-N2500	112 ~ 150	2500	450	132
HFX-N3000	135 ~ 180	3000	540	160
HFX-N3500	160 ~ 210	3500	630	185
HFX-N4000	180 ~ 240	4000	720	200
HFX-N4500	200 ~ 270	4500	810	220
HFX-N5000	225 ~ 300	5000	900	250

下进风式高效选粉机: 适用于辊压机、风扫煤磨、球磨机系统

Lower inlet air high efficiency separator: be suitable for roller press, air sweep coal mill and ball mill systems

规格型号 Type	产量 Capacity (t/h)	风量 Air volume (m ³ /min)	处理量 Max. feeding capacity (t/h)	功率 Power (kW)
HFX-M250	13 ~ 16	250	45	15
HFX-M350	18 ~ 23	350	63	18.5
HFX-M500	25 ~ 30	500	90	22
HFX-M750	40 ~ 50	750	135	30
HFX-M1000	50 ~ 65	1000	180	37
HFX-M1500	75 ~ 100	1500	270	55
HFX-M2000	100 ~ 130	2000	360	75
HFX-M2500	125 ~ 160	2500	450	90
HFX-M3000	150 ~ 200	3000	540	110
HFX-M3500	175 ~ 230	3500	630	110
HFX-M4000	200 ~ 260	4000	720	132
HFX-M4500	225 ~ 290	4500	810	160
HFX-M5000	250 ~ 330	5000	900	160
HFX-M6000	300 ~ 390	6000	1080	200
HFX-M8000	400 ~ 520	8000	1440	250
HFX-M10000	500 ~ 650	10000	1800	315

卧式动态选粉机: 适用于辊压机预粉碎系统

Horizontal dynamic separator: be suitable for the pre-grinding system of roller press

规格型号 Type	产量 Capacity (t/h)	风量 Air volume (m ³ /min)	处理量 Max. feeding capacity (t/h)	功率 Power (kW)
HFVW1000	30 ~ 60	1000	240	18.5
HFVW1500	45 ~ 90	1500	360	30
HFVW2000	60 ~ 120	2000	480	37
HFVW2500	75 ~ 150	2500	600	45
HFVW3000	90 ~ 180	3000	720	55
HFVW4000	120 ~ 240	4000	960	75
HFVW5000	150 ~ 300	5000	1200	90
HFVW6000	180 ~ 360	6000	1500	110



HES HIGH EFFICIENCY SEPARATOR

HES高效选粉机

概述 Introduction

2006年3月，HES高效选粉机被中国建材机械工业协会授予“中国建材机械行业名牌”。

HES high efficiency separator was honored with the title “Top Brand Product” in Chinese building material machinery industry by China Building Material Machinery Association in March of 2006.

特点简介 Characteristics

① HES系列产品及其工艺系统具有如下特点：

① 产量高：比开路磨系统提高50~100%，比离心式选粉机系统提高10~30%。带CMS煤磨选粉机的新风扫煤磨系统比带粗粉分离器的老风扫煤磨系统产量可提高20%以上

① 电低耗：HES选粉机粉磨系统电耗比离心式选粉机粉磨系统低5~20%

① 产品细度调节范围广：产品比表面积可在260~650m²/kg范围内选择

① 工艺系统是全负压操作，无粉尘污染，能做到文明清洁生产和达标排放

① 选粉机体积小运转平稳，工艺布置灵活，特别适合老厂改造

① 对选粉机易磨损部位均采用了优质耐磨材料，维修量很小

① HES Series products and their process systems are featured as follows:

① High output: 50~100% higher than open circuit mill system; 10~30% more than centrifugal-type separator. Output of the new air-swept coal mill system with CMS separator could exceed that of the old type with air flow classifier by over 20%.

① Low power consumption: 5~20% lower than that of the grinding system with centrifugal-type separator.

① A wide regulating range of product fineness: specific surface area of product could be adjusted within a range of 260~650m²/kg.

① A negative-pressure process operation system without dust pollution for clean production and standard emission.

① Separator is small and stable in operation, which leaves much space for process arrangement, and particularly suits upgrading of old Lines.

① Wearing parts of separator is made from wearable materials of top quality, which requires small repairing works.





规格与性能参数表 Specification

HES-B型选粉机(下进风) HES-B High Efficiency Separator(Intaking Air at Bottom)								
规格型号 Type	选粉风量 Air Volume for separating (m ³ /min)	物料 处理 量	成品产量		成品细度		水泥 比表面积 (m ² /kg) Motor Power (m ² /kg)	电机 功率 (kW)
			水泥 Cement	生料 Clinker	水泥 Cement	生料 Clinker		
HES-B2000	120000-150000	3 2 0	78-100	120-150	1-3	8-10	300-350	110
HES-B2500	150000-180000	4 0 0	98-120	145-180	1-3	8-10	300-350	110
HES-B3000	180000-210000	5 0 0	120-150	180-220	1-3	8-10	300-350	132
HES-B3500	210000-240000	5 9 0	145-180	210-260	1-3	8-10	300-350	160
HES-B4000	240000-280000	6 5 0	160-190	234-290	1-3	8-10	300-350	200
HES-B4500	270000-310000	7 3 0	180-220	270-320	1-3	8-10	300-350	220
HES-B5000	300000-380000	8 2 0	200-250	300-360	1-3	8-10	300-350	250
HES-B6000	360000-450000	9 8 0	240-300	330-390	1-3	8-10	300-350	250
HES-B7000	420000-500000	1200	280-350	360-420	1-3	8-10	300-350	250
HES-B8000	480000-560000	1400	320-400	390-450	1-3	8-10	300-350	280
HES-B9000	540000-650000	1600	360-430	420-480	1-3	8-10	300-350	280
HES-B10000	600000-800000	1800	400-480	450-500	1-3	8-10	300-350	300

规格型号 Type	最大处理量 Max. capacity (t/h)	产量 Output (t/h)	产品细度(%) (生料/水泥 R _{0.08}) Product fineness (raw meal/cement R _{0.08})	选粉风量 Air Volume for separating (m ³ /min)	电机功率 Motor Power (kW)
HES-N2000	380	70-90	水泥Cement 2-5	2000	110
HES-N2500	450	75-110	水泥Cement 2-5	2500	110
HES-N3000	500	90-140	水泥Cement 2-5	3000	132
HES-N3500	560	130-170	水泥Cement 2-5	3500	160
HES-N4000	640	160-200	水泥Cement 2-5	4000	200
HES-N5000	800	200-250	水泥Cement 2-5	5000	220

以下为用于生产微矿粉带挤压机、管磨的联合粉磨系统的HVWF型选粉机 Followings are HVWF-type separators of combined grinding system with roller press and tube mill for producing superfine mineral powder

HFVW750	180	24-45	180-330 (m ² /kg)	750	22
HFVW1000	240	30-60	180-330 (m ² /kg)	1000	37
HFVW1250	300	38-75	180-330 (m ² /kg)	1250	45
HFVW1500	360	50-90	180-330 (m ² /kg)	1500	55
HFVW2000	480	60-120	180-330 (m ² /kg)	2000	75
HFVW2500	600	80-150	180-330 (m ² /kg)	2500	75
HFVW3000	720	90-180	180-330 (m ² /kg)	3000	90
HFVW4000	960	120-240	180-330 (m ² /kg)	4000	132
HFVW5000	1200	150-300	180-330 (m ² /kg)	5000	160
HFVW6000	1500	180-360	180-330 (m ² /kg)	6000	200

以下为风扫煤磨系统用煤磨选粉机 Followings are separators for air-swept mill in coal grinding system

CMS-N250	20	2.5-4.0	1-8	250	11.0
CMS-N500	45	10-15	1-8	500	18.5
CMS-N750	68	18-24	1-8	750	30
CMS-N1000	90	24-36	1-8	1000	37
CMS-N1250	110	36-42	1-8	1250	45
CMS-N2000	180	48-60	1-8	2000	55



ATT系列亚微米超细分级机

ATT Series Submicron Superfine Classifier

ACS系列涡流超细分级机

ACS Series Vortex Superfine Classifier

ADW系列涡流超细分级机

ADW Series Vortex Superfine Classifier

ACF系列涡流超细分级机

ACF Sseries Vortex Superfine Classifier

概述 Introduction

- ① 引进德国先进分级技术研发制造，专攻超细分级，品种规格最全
- ① 适用400~6250目微粉大规模超细分级生产，处理能力达到40吨/时，分级精度的稳定性也一如既往
- ① 确保清晰的切割顶点，决无夹带粗颗粒现象
- ① 可直联各类超细磨（如气流磨、冲击磨等），更适合与高细球磨机、振动磨、搅拌磨等研磨设备配套。通过变频调转速或风机叠阀开度调产品细度，使产品品种的调节非常方便
- ① 广泛适用于各种非金属矿微粉、医药、农药、磨料、无机（如高岭土、方解石、高岭土和滑石等）或有机粉末等各种干粉的分级
- ① Being developed and manufactured on the basis of the introduced advanced Germany classifying technology,



the products are specialized in superfine classifying process and complete in types and specifications.

- ① Applicable to large scale superfine classifying production of micro powder in 400~6250 mesh. The capacity could reach 40t/h. Classifying process is stable in precision.
- ① Clear critical points without coarse granule mixed.
- ① Available to be directly linked with all types of superfine mills (e.g. air-swept mill, impact mill); more suitable to be equipped with grinding machines as high fineness ball mill, vibration mill, agitator mill, etc; convenient to vary product fineness through regulating rotating speed by frequency converter or adjusting opening of butterfly valve of the fan.
- ① Widely applied to classification of a variety of dry powder like non-metallic mineral micro powder, medicines, agriculture Chemicals, grinding materials, inorganic (e.g. kaolin clay, calcite, talc, etc.) or organic powder, etc.



ATT系列亚微米超细分级机规格与性能参数表

Specification of ATT series submicron superfine classifier

规格型号Type	ATT200	ATT360	ATT510	ATT610	ATT720
叶轮直径Rotor Diameter	200	360	510	610	720
处理能力Capacity (t/h)	2	4	8	11	15
调节范围 D97 (μm) Range of regulation	2~10	2~10	3~10	4~10	5~10
产量 Output (kg/h)	D97 = 2 μm	50	120	230	/
	D90 = 2 μm	70	180	360	/
	D97 = 4 μm	120	310	600	900
	D97 = 5 μm	180	450	900	1300
	D97 = 8 μm	240	600	1200	1700
	D97 = 10 μm	360	900	1800	2600
装机功率Motor Power (kW)	45	75	160	220	280

ADW系列涡流超细分级机规格与性能参数表

Specification of ADW series vortex superfine classifier

规格型号 Type	处理能力 Capacity (t/h)	调节范围 D97 (μm) Regulation Range	产量 Output (t/h) D97=10 μm	电机功率 Motor Power (kW)	叶轮个数 Number of Impeller
ADW4001Z	0.3-0.5	3-37	0.1-0.2	5.5×1	1
ADW4003Z	1.0-1.5	3-37	0.3-0.4	5.5×3	3
ADW6301Z	0.5-2.0	4-37	0.4-0.5	15×1	1
ADW6303Z	1.5-7.0	4-37	1.3-1.5	15×3	3
ADW6304Z	3.0-10.0	4-37	1.7-2.0	15×4	4
ADW6306Z	6.0-15.0	5-37	2.7-3.0	15×6	6
ADW8001	1.0-3.0	5-37	0.6-0.8	18.5×1	1
ADW8003	3.0-10.0	5-37	1.8-2.2	18.5×3	3
ADW8004	4.0-15.0	5-37	2.6-3.0	18.5×4	4
ADW10001NG	2.0-5.0	5-37	1.0-1.2	30×1	1
ADW10003NG	6.0-18.0	5-37	3.1-3.5	30×3	3
ADW10004NG	8.0-25.0	5-37	4.2-4.6	30×4	4
ADW10006NG	12.0-35.0	5-37	6.0-6.8	30×6	6

ACS系列涡流超细分级机规格与性能参数表

Specification of ACS series vortex superfine classifier

规格型号 Type	处理能力 Capacity (t/h)	调节范围 D97 (μm) Range of regulation	产量 Output (t/h) D97=10 μm	装机功率 Motor Power (kW)
ACS 400	2-6	5-37	1.0-1.3	30
ACS 630	4-12	6-37	1.5-1.8	45
ACS 750	6-18	8-37	2.1-2.4	55
ACS 830	8-22	9-37	2.6-3.0	75
ACS 1000	10-28	9-37	3.2-3.5	75
ACS 1200	12-32	10-37	3.7-4.1	90
ACS 1000	15-38	12-37	4.3-4.5	110
ACS 1200	18-45	15-37	/	110



ENERGY SAVING GROOVED LINER

节能型沟槽衬板

○ 概述 Introduction

沟槽衬板适用于各种磨机的球仓，依靠其表面的沟槽形状及特殊的排列方式，提高磨机的粉磨效率，达到增产、节电、降低磨耗、降低噪声、提高水泥比表面积的目的。在国内推广应用数千台磨机，并出口到泰国、沙特、巴西等十多个国家。

双螺旋型段分级衬板被列为“九五”建材工业科技成果推广项目。适用于各种磨机的段仓，依靠多边形截面的旋转排列和倾斜凸棱的疏密排列，构成双螺旋，可使钢段产生良好的正分级，提高磨机的粉磨效率，特别有利于提高水泥的比表面积

Grooved liner is suitable for ball compartments of various mills. Grinding efficiency can be improved by the shape of grooves on the surfaces of liners and special arrangement of the liners to increase mill capacity, save power, reduce wear and tear, decrease noise and improve the specific surface area of cement. It has been applied to thousands of mills in China and exported to more than 10 countries like Thailand, Saudi Arabia, and Brazil.

Double spiral type section classifying liner is listed as promotion project of National Ninth Five-year plan for its scientific and technological achievement in building material industry. The liner can be used in various sectional compartments of mills. Due to the spiral arrangement of polygonous cross sections and loose and close arrangement of inclined edges, the double spirals are formed. This makes clypebs a good positive classifying effect, increasing grinding efficiency. It is especially good for upgrading the specific area of cement.

○ 特点简介 Characteristics

根据磨机调查表采集的工艺参数做针对性单机设计，选择适宜的沟槽半径，合理的多种结构组合排列，最佳的钢球抛落轨迹，良好的钢球分级，最大限度地提高粉磨效率。可螺栓固定，可镶砌。

Specific design can be made according to the collected process parameters in mill questionnaire. Appropriate groove diameter, reasonable combination and arrangement of various structures, optimum parabola of the steel ball and proper classification of steel ball, all of these work together to maximize grinding efficiency. Bolt can be used for fixing and inlay is possible.

◎ 技术指标 Technical indexes

增产5~15%，节电8~20%，提高水泥比表面积20~30m²/kg，降低噪音5dB，减少球和衬板的金属磨损。

Increase output by 5~15%, save electricity by 8~20%, upgrade the specific surface area of cement by 20~30m²/kg, reduce noise by 5dB and decrease metal wear and tear of balls and liners.





HFKH SERIES RAPID FLUIDIZING DRYER

HFKH系列快速沸腾式烘干机

○ 概 述 Introduction

HFKH快速沸腾式烘干技术采用新型组合式扬料装置，通过高温热介质进行快速烘干，适应入料粒度 $\leq 40 \sim 60\text{mm}$ ，水份 $\leq 15 \sim 60\%$ 的各种物料，如建材行业的矿渣、粉煤灰、煤、黄砂、石英砂；电力行业的脱硫石膏；煤炭行业的褐煤；化工行业的电石渣、磷石膏；选矿业的精矿、尾矿；造纸及市政污泥等。

与传统的烘干机相比，HFKH快速沸腾式烘干技术产量提高80~120%，煤耗下降40~60%，单位容积蒸发强度可达80~120kg/m³h，其操作简单，运行平稳，各项技术指标均达到国际先进水平。该技术于1998年获得国家发明专利(专利号：ZL91109965.4；国际专利主分类号：F26B 17/30)，并荣获国家科技进步三等奖、建材行业科技进步二等奖、安徽省科技进步二等奖等多项荣誉，现已在国内外推广运用500多套，深受用户好评。

Adopting the new and combined type of material-raising device to rapidly dry materials through high temperature thermal medium, HFKH rapid boiling drying technology can be used for various feeding materials with particle size $\leq 40 \sim 60\text{mm}$ and moisture $\leq 15 \sim 60\%$, such as slag, fly ash, coal, yellow sand, and quartz sand in building material industry; desulfurization gypsum in power industry; lignite in coal industry; ardealite and carbide slag in chemical industry; fine ore and tailings in beneficiation industry; papermaking and municipal mud treatment, etc.

Compared with traditional dryer, HFKH rapid boiling drying technology output is enhanced by 80~120%, coal consumption decreases by 40~60%, and the unit volume evaporation intensity reaches 80~120kg/m³h. Its various technical indexes have reached international advanced level, with simple operation and stable running. This technology has acquired State Invention Patent (Patent No: ZL91109965.4; main classification number of International Patent: F26B 17/30) in 1998, and has won numerous honors including the Third Prize of National Scientific and Technological Progress, the Second Prize of Scientific and Technological Progress in Building Material Industry, the Second Prize of Scientific and Technological Progress in Anhui Province. More than 500 sets of this equipment have been used at home and abroad with wide recognition.





特点简介 Characteristics

- ① 烘干机内部扬料装置结构新颖独特，可根据物料的不同进行变化和布置，具有导向、均流、阻料等多种功能，极大改善了物料与热风的热交换效率
- ① 配套节煤型高温沸腾炉能完全燃烧劣质煤及煤矸石，机械出渣，操作简便；沸腾炉配备混烧脱硫装置，SO₂排放≤20mg/Nm³
- ① 烘干系统采用专用袋式除尘器，出口浓度≤30mg/Nm³；滤袋采用德国进口滤料，使用寿命长
- ① 水蒸气通过冷凝集水系统回收循环利用
- ① 整个烘干系统全部机械化、仪表控制
- ① The material-raising device structure inside the dryer is novel and unique, and it can be changed and arranged according to different materials, with multiple functions including guiding, flow equalizing, material blocking, etc., which greatly improves the heat exchange efficiency between material and hot air.
- ① The boiling furnace, which is coal-saving and of high temperature, can completely burn inferior coal and coal gangue whose slag will be sent out mechanically. This boiling furnace is equipped with co-firing desulfurization device with SO₂ emission ≤20mg/Nm³
- ① The drying system adopts specific bag filter with outlet concentration ≤30mg/Nm³; the bag adopts German made filtering material with long service life.
- ① Steam is returned and recycled through water condensation system.
- ① The whole drying system is completely mechanized and controlled by instruments.

规格与性能参数表 Specification

规格型号 Type	物料 Materials						电机 功率 Motor power (kW)
	矿渣 Slag		粉煤灰 Fly Ash		褐煤 Lignite		
	初水份 Original moisture: 15%~18% 终水分 Final moisture:1%	煤耗 Coal consumption (Nkg/t)	初水份 Original moisture: 20%~30% 终水分 Final moisture:1%	煤耗 Coal consumption (Nkg/t)	初水份 Original moisture: 30%~45% 终水分 Final moisture:5%~8%	煤耗 Coal consumption (Nkg/t)	
产量 Output (t/d)	煤耗 Coal consumption (Nkg/t)	产量 Output (t/d)	煤耗 Coal consumption (Nkg/t)	产量 Output (t/d)	煤耗 Coal consumption (Nkg/t)		
Φ2.4×18	46~56	16~18	25~28	21~24	/	/	45
Φ2.6×20	58~65	16~18	30~34	21~24	/	/	55
Φ3.0×25	65~75	15~17	45~50	20~23	/	/	75
Φ3.2×25	105~120	15~17	65~70	20~23	40~45	30~35	132
Φ3.6×25	135~140	14~16	80~85	20~22	75~80	30~35	185
Φ4.0×30	170~180	14~16	110~120	20~22	90~100	29~33	250



HF PREHEATER CALCINER SYSTEM

HF预热器分解炉系统

概述 Introduction

HF预热器分解炉系统已于2011年12月10日通过了中国建材联合会科技成果鉴定，主要技术经济指标达到国际先进水平。早在70年代末，合肥水泥研究设计院（HCRDI）设计了中国第一条窑外预分解窑系统（邳县），使中国的水泥生产水平发生了质的飞跃，不但产量大幅增长，而且热耗显著降低。如今，中建材（合肥）热工装备科技有限公司设计的预热器分解炉系统广泛应用于新线建设及老线节能技术改造。其中，承接的江西玉山南方2500t/d烧成系统改造总包工程被南方水泥授予“南方水泥示范线”，福建春驰新丰2x2500t/d技改项目吨熟料标煤耗下降10kg以上，被誉为“研发能手，业界标兵”，宝鸡众喜2x5000t/d新线建设吨熟料标煤耗低于100kg。

该产品和回转窑、篦冷机、燃烧器等共同组成水泥熟料烧成系统。适应不同易烧性的生料和不同的燃料（天然气、重油、烟煤、无烟煤等）。可用于电石渣、镁渣等工业废弃物生产水泥熟料。该产品可配套余热锅炉、汽轮机组成纯低温余热发电系统。

公司完成的《高能效熟料烧成关键技术与装备的研究和开发》科技成果获2012年度中国建筑材料联合会中国硅酸盐学会建筑材料科学技术奖科技进步二等奖。

HF preheater calciner system has been authenticated as scientific & technological achievement by China Building Materials Association. Its major technological and economic indicators reach international advanced level. As early as the late 1970s, Hefei Cement Research & Design Institute (HCRDI) developed the first precalciner kiln system of China, in Pi County, making a qualitative leap in China's cement production industry. It not only increases the output sharply but also reduces heat consumption significantly. Till now, the preheater calciner system designed by CNBM (Hefei) Thermal Equipment Technology & Equipment Co. Ltd is widely applied in the building of the new line and energy saving and technical modification of the old line. For instance, the contracted Jiangxi Yushan southern 2500t/d burning system modification turnkey project is awarded "South cement model line" by South Cement. The standard coal consumption of per tons of clinker has declined over 10 kilos in Fujian Chunchi Xinfeng 2 x 2500t/d technical modification project, which is honored as "Expert in Research and Development, Pioneer in the Industry". The standard coal consumption of per tons of clinker is lower than 100 kilos in Baoji Zhongxi 2 x 5000t/d new line construction.

Preheater calciner system together with rotary kiln, grate cooler, burner, etc. composes cement clinker burning system. It is suitable for different burnable raw materials and different fuels (natural gas, heavy oil, Bituminous coal, anthracite, etc.). It can be applied for cement clinker production by using industrial waste materials like carbide slag and magnesium slag. This system can combine with waste heat boiler and turbine to make up pure low temperature waste heat power generation system.

The scientific fruit The Research and Development of High Efficiency Clinker Burning Key Technique and Equipment completed by the company has gained the Second Prize of Scientific and Technical Progress for "China Building Material Federation · The Chinese Ceramic Society Building Material Scientific Technology Award" in 2012.

特点简介 Characteristics

- ① 旋风筒：多心大蜗壳，短柱体，等角变高过度连接，偏锥防堵，挂片式内筒。内筒材质为：耐热钢和陶瓷供用户选择
- ① 分解炉：根据用户原燃材料，定制分解炉结构，主要有管道式和RSP型分解炉
- ① 系统：具有低阻力、高换热效率等特点
- ① Cyclone: multi-center spiral shell, short cylinder, equiangular & height variable transition joint, antiblocking deflective cone and segmented dip tube. Materials of dip tube: heat resistant steel and ceramics for customer choice.
- ① Calciner: calciner structure can be specified according to raw materials and fuel provided by clients. There are mainly two types: pipe type and Semi-SLC with ignition chamber.
- ① System: low resistance, high heat exchange rate etc.





规格与性能参数表 Specification

序号 No.	规格型号 Type	规模 Capacity(t/d)	主要技术参数 Main technical parameters
1	HF1200/5	1200	1#筒出口废气温度: 280-310℃;
2	HF1500/5	1200	系统阻力: 4600-5000Pa; 生料CaCO ₃ 入窑分解率: 92-95% Waste gas temperature at cyclone 1# outlet: 280-310℃ System resistance: 4600-5000Pa; Calcining rate of kiln feed CaCO ₃ : 90%-95%;
3	HF2000/5	2000	
4	HF2500/5	2500	
5	HF3000/5	3000	
6	HF4000/5	4000	
7	HF5000/5-2	5000	1#筒出口废气温度: ≤280℃; 系统阻力: 4600-5000Pa; 生料CaCO ₃ 入窑分解率: 92-95% Waste gas temperature at cyclone 1# outlet: ≤280℃ System resistance: 4600-5000Pa; Calcining rate of kiln feed CaCO ₃ : 90%-95%
8	HF6000/5-2	6000	1#筒出口废气温度: ≤280℃; 系统阻力: 4800-5300Pa; 生料CaCO ₃ 入窑分解率: 92-95% Waste gas temperature at cyclone 1# outlet: ≤280℃; System resistance: 4800-5300Pa; Calcining rate of kiln feed CaCO ₃ : 90%-95%
9	HF8000/5-2	8000	
10	HF10000/5-2	10000	1#筒出口废气温度: ≤280℃; 系统阻力: 5000-5500Pa; 生料CaCO ₃ 入窑分解率: 92-95% Waste gas temperature at cyclone 1# outlet: ≤280℃ System resistance: 5000-5500Pa; Calcining rate of kiln feed CaCO ₃ : 90%-95%
11	HF12000/5-2	12000	

说明: HF XXXX / X - X (产品代码) (规模) (级数) (双列2、单列1不表示)

Note: HF XXXX / X - X (Product code) (Capacity)(Stage) (2 indicates double string, single string are not indicated here)



HP FORCED SWIRL MULTI-CHANNEL BURNER

HP强涡流型多风道煤粉燃烧器

概述 Introduction

高性能的燃烧器是回转窑煅烧水泥熟料的关键设备之一，中建材（合肥）热工装备科技有限公司在消化吸收国外先进技术的基础上，结合我国燃料条件研制开发的HP型多通道燃烧器，通过中国建材联合会鉴定，其鉴定结论是“结构属国内首创，性能属国内领先，可替代同类进口产品”。现已开发出适用于1000t/d~7500t/d规模生产线的窑头多通道燃烧器、分解炉多通道燃烧器、重油燃烧器、燃气燃烧器、复合型多通道燃烧器等多规格、多系列燃烧装备，可满足不同用户的需求。

HP型多通道燃烧器比其它形式的燃烧器更能适应煤质的大幅度变化，既能烧劣质煤、低挥发份煤、100%的全无烟煤，又能有效降低NO_x的排放；HP复合型多通道燃烧器，能够同时使用煤粉、煤气、天然气、重油等两种或多种燃料混烧，并能单独使用其中一种燃料，各燃料能够实现在线切换。

HP型燃烧器现已成功应用于拉法基、祁连山、吉林亚泰、蒙西集团、北京金隅集团、首钢集团、中钢集团、中色集团、中铝集团等水泥、钢铁、有色、化工等行业的回转窑生产线，已投入使用四百余台套，并且出口到巴西、阿尔及利亚、秘鲁、缅甸、柬埔寨、印度、印尼、巴基斯坦、越南、新加坡等几十个国家。



High-performance burner is one of the key equipment for clinker production of rotary kiln. On the basis of introducing foreign advanced technology and in combination with fuel condition in China, CNBM Thermal Equipment Technology & Equipment Company (Hefei) developed HP multi-channel burner. This new generation and high-performance burner has passed the authentication of China Building Material Association. Its authentication result is “it is pioneer product in the structure and takes the leading position in the performance in China, and it is able to replace similar imported product”. Presently, Our Company has developed multi-types and multi-series burning equipments such as kiln outlet multi-channel burner, precalciner multi-channel burner, heavy oil burner, natural gas burner and composite multi-channel burner to meet the requirement of different clients, which could be used in cement production line with the capacity ranging from 1000tpd to 7500tpd.

Comparing with other types of burner, HP multi-channel burner is more adaptive to wide-range variation of coal quality, because it can not only burn poor-quality coal, low-volatile Coal, 100% anthracite, but also effectively reduce the emission of NO_x. HP composite multi-channel burner can burn the mixture of two or more kinds of pulverized coal, coal gas, natural gas or heavy oil. It can also burn only one of these fuels and switch from one to another kind of fuel on line.

HP burner has been applied successfully in rotary kiln production line in Lafarge, Qilianshan Company, Jilin Yatai, Beijing Jinyu Group, Shougang Group, Sinosteel Corporation, China Non-ferrous Metals Mining Corporation, Aluminium Group, involving cement, steel, nonferrous metal and chemical industries, etc. More than 400 units have been put into use. It has been exported to dozens of countries including Brazil, Algeria, Peru, Burma, Cambodia, India, Indonesia, Pakistan, Vietnam, Singapore, etc.

特点简介 Characteristics

- ① 头部无活动部件，外风不是通常的环状而是由排成环的离散型小喷嘴喷出，不易变形，不会发生偏火刷窑皮
- ① 离散型外风喷嘴可达到比通常三风道、四风通道燃烧器更高的喷射速度，吸入更多的高温二次风，对烧劣质煤、无烟煤有利
- ① 燃烧器煤粉入口处设有双层耐磨保护
- ① 风翅及外风喷嘴更换方便，可适应煤质的大幅度变化
- ① 采用多重强度结构，确保足够刚度
- ① 火焰集中有力，推力大，热力强度高
- ① There are no moving parts in the burner head. External air is jetted from the small discrete nozzles which lines in ring form, not the annular nozzle. It is not likely to be distorted, so the flame would not burn out kiln coating.
- ① The jetting velocity of discrete type external air nozzle is higher than that of traditional 3 or 4-channel burners and it will take in more secondary air in high temperature, which helps burning anthracite and low grade coal.
- ① Double wear-resistant layers for protection are at the coal meal inlet of burner.
- ① Air wings and external air nozzles are easy to replace so as to adapt to significant changes in the coal types.
- ① Adopting multiple strength structure ensures sufficient rigidity.
- ① The flame concentrates, so it is strong and can push powerfully, and the thermal intensity is high.



- ① 火焰形状调节方便，简单可靠，提温快，窑运转率高
- ① 采用大速差热回流技术原理，高温烟气回流效应强，对煤种适应性强，可烧劣质煤、无烟煤
- ① 一次风量小于7%，充分利用温度高的二次风，节煤降耗显著
- ① 火焰温度峰值平坦，窑皮均匀稳定，延长耐火砖寿命，利于提高熟料产质量
- ① 有效减少环境污染，NO_x排放量降低30%以上
- ① 应用范围广，已广泛应用于建材、化工、冶金、矿业等
- ① It is convenient to adjust flame shape simply and reliably; and the temperature rises quickly and running rate of kiln is high.
- ① Basing on the principle of large air velocity difference, the burner runs with a remarkable backflow of hot flue gas and is adaptable to various types of coal, including anthracite and low grade coal.
- ① Primary air volume is less than 8%, so secondary air of high temperature could be fully used to make significant coal saving and heat consumption decrease.
- ① Stable peak value of flame temperature and stable undamaged kiln coating help extending service life of refractory brick and improve quality of clinker.
- ① Environmental pollution is effectively reduced; NO_x emission decreases by over 30%.
- ① The burner is widely applied to all types of rotary kilns in the industries of building material, chemical, metallurgy, mining, etc.

○ 技术指标 Technical indexes

- ① 直流风速：120 ~ 300 m/s (必要时可>300 m/s)
- ① Direct air flow velocity: 120 ~ 300 m/s (>300 m/s if necessary)
- ① 内流风速：100 ~ 250 m/s
- ① Interior air flow velocity: 100 ~ 250 m/s
- ① 煤风风速：20 ~ 30 m/s
- ① Velocity of coal air: 20 ~ 30 m/s
- ① 一次风量：≤8%
- ① Primary air volume: ≤8%

○ 规格与性能参数表 Specification

配套生产线规模 Capacity		1000t/d	1500t/d	2000t/d	2500t/d	3000t/d	4000t/d	5000t/d	6000t/d
燃烧器形式 Burner type		四通道 4-channel	四通道 4-channel	四通道 4-channel	四通道 4-channel	四通道 4-channel	四通道 4-channel	四通道 4-channel	四通道 4-channel
正常喷煤量 Normal coal injecting capacity (t/h)		~ 3.0	~ 4.0	~ 6.0	~ 8.0	~ 10.0	~ 12.0	~ 16.0	~ 20.0
最大喷煤量 Max. coal injecting capacity (t/h)		5.0	6.0	8.0	10.0	14.0	16.0	20.0	24.0
燃烧器移动速度 Burner traveling speed (m/min)		1.75	1.75	1.75	3.74	3.74	3.74	2.2	2.2
燃烧器本体重量 Burner weight (kg)		~ 2500	~ 3000	~ 3500	~ 4000	~ 4300	~ 5000	~ 6500	7000
配套件重量 Weight of accessories(kg)	移动小车 Traveling trolley	~ 1500	~ 1500	~ 1500	~ 1800	~ 1800	~ 1800	~ 3450 (落地) On the ground	~ 3450 (落地) On the ground
	小车轨道 Trolley track	~ 2300	~ 2300	~ 2300	~ 2800	~ 2800	~ 2800	~ 2000 (地轨) Ground track	~ 2000 (地轨) Ground track
减速电机 Reducing motor	功率 Power(kW)	1.1	1.1	1.1	1.5	1.5	1.5	2.2	2.2
点火助燃系统 Ignition combustion supporting system	油量 Oil consumption(t/h)	0.6	0.6	0.8	1.0	1.0	1.2	1.2	1.8
	功率 Power(kW)	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5



MODEL HCFC CONTROL FLOW GRATE COOLER

HCFC型控制流篦冷机

概述 Introduction

HCFC型篦冷机是我院自主研制开发的新型节能熟料冷却热工装备，已通过技术鉴定，达国内领先水平。该产品采用国际上先进的控制流技术，依靠先进的热工工艺进行了持续的优化改进，较之传统篦冷机可提高产量20%，减少热耗10%以上。

该技术荣获省科技进步三等奖及中国建材集团技术创新三等奖。2006年被评为中国建材机械行业名牌产品。2007年被科技部列为国家“十一五”规划绿色水泥装备篦冷机项目的唯一指定科研单位。2008年荣获安徽省名牌产品。

Model HCFC grate cooler is new energy-saving thermal process equipment for cement clinker cooling. It was independently designed and developed by HCRDI and passed technical appraisal, being state-of-the-art in China. Adopting internationally advanced control flow technology and repeatedly improved thermal process, its capacity increases by 20% and heat consumption reduces by 10%, comparing with traditional grate coolers.

The new grate cooler technology was awarded the 3rd Prize for Provincial Science and Technological Advancement and the 3rd Prize for Technical Innovation of China National Building Material Group Cooperation (CNBM), and was honorably named as "Top Brand Product" in Building Material and Machinery Industry of China in 2006. In 2007, HCRDI was exclusively designated to be the scientific research institution for the subject of grate cooler of "Eco-friendly Cement Equipment" listed in the National Eleventh Five-Year Development Plan by State Ministry of Science and Technology. In 2008, it was named as "Top Brand Product of Anhui Province".



规格与性能参数表 Specification

规格型号 Type	产量 Output (t/d)	篦床有效面积 Grate bed effective area (m ²)	单位面积产量 Unit area capacity (t/m ² .d)	驱动方式 Drive	段数 Segment
HCFC-1000	1000~1100	27.7	39.7	机械 Mechanical	二
HCFC-1200	1200~1300	30.5	42.6	机械 Mechanical	二
HCFC-1500	1500~1600	36.1	44.3	机械 Mechanical	二
HCFC-2000	2000~2100	46.6	45	机械 Mechanical	二
HCFC-2500	2500~2600	64.8	40.1	液压、机械 Hydraulic & mechanical	二
HCFC-3000	3000~3200	75.8	42.2	液压、机械 Hydraulic & mechanical	二
HCFC-3500	3500~3700	87.8	42.1	液压、机械 Hydraulic & mechanical	二
HCFC-4500	4000~4500	107.5	41.9	液压 Hydraulic	二
HCFC-5500	5000~5500	131.8	41.7	液压 Hydraulic	三
HCFC-6500	6000~6500	154.6	42	液压 Hydraulic	三



○ 技术指标 Technical indexes

- | | |
|-----------------------------|---|
| ① 产量: 600~10000 t/d | ① Capacity: 600~10000 t/d |
| ① 热效率 $\geq 72\%$ | ① Heat recovery rate $\geq 72\%$ |
| ① 入料温度: 1370℃ | ① Feed temperature: 1370℃ |
| ① 出料温度: 65℃+环境温度 | ① Discharge temperature: 65℃+ ambient temperature |
| ① 出料熟料粒度 $\leq 25\text{mm}$ | ① Discharged clinker size $\leq 25\text{mm}$ |
| ① 设备运转率 $\geq 98\%$ | ① Equipment running rate $\geq 98\%$ |
| ① 篦板使用 >2 年 | ① Grate's service life >2 years |

○ 特点简介 Characteristics

- ① 进料端采用了独特的KIDS系统及脉动供风系统
- ① 优化的篦床分区供风, 精确控制各冷却区域的用风量, 最终达到高效冷却, 获得高的热回收效率, 节能效果显著
- ① 高效新型篦板结构, 采用高强度, 耐高温、抗氧化磨损的合金铸钢并经特殊的加工处理而成, 具有较好的阻力和高的气流穿透性, 不同冷却区域采用不同的篦板
- ① 摆动补偿器: 采用独特的高科技镀膜技术延长使用寿命。活动空气梁通过摆动补偿器与风管连接, 能补偿篦床在三维空间的运动
- ① 独特的外置托轮和导向装置, 篦床支撑采用独立承载的托轮, 其表面硬度高, 耐磨性好, 能有效防止篦床下沉现象。整个篦床支撑托轮全部置于壳体外侧, 使风室内无润滑点, 检修维护极为方便
- ① 篦下漏料锁风系统: 采用高精度配合密封, 密封性好, 解决了单靠料封的空气泄漏问题; 新结构的料封阀结构简单, 动作安全可靠, 使用寿命长
- ① 完善的监测调控技术, 如三元控制系统、篦板及篦下温度报警系统等, 确保篦冷机运行更加高效可靠、稳定窑的操作
- ① Special KIDS system and pulse air supply system are used at the feed end.
- ① Optimized separate air supply to precisely control air consumption of each cooling area. Therefore Cooling efficiency and heat recovery rate is highly increased with remarkable energy-saving performance.
- ① New high efficiency grate structure is made of high strength, high temperature resistant, inoxidizable and wearable alloy cast steel through special manufacturing process. It has good resistance and high air penetrability. Different grate are used for different cooling areas.
- ① Swing compensator: The special high-tech film coating technology extends the swing compensator's service life. Movable aerating beam connects with air duct through swing compensator, which compensates movement of grate bed in 3-dimensional space.
- ① Special external supporting roller and guide device: Grate bed is supported by independent bearing rollers which are of hard surface and good wear-resistance feature to prevent from subsidence of grate bed. As all rollers are at the sides of shell, there is no lubricating point in air chambers, so repair and maintenance is easy.
- ① Leakage air lock system under the grate plate: Only material seal might not avoid air leakage, but high precise matching seal tackles this problem. The new material seal valve has simple structure, safe and reliable operation and long service life.
- ① Optimized monitoring and regulating technology as 3-element control system, grate plate and under-grate-plate temperature alarming system ensures reliable and highly efficient operation of grate cooler and stabilizes kiln operation.

MODEL HCFC CONTROL FLOW GRATE COOLER

WHEC型步进式冷却机

概述 Introduction

第四代WHEC型步进式冷却机是利用我公司二十多年冷却机的研究成果和设计经验，并吸收了国内外先进的冷却工艺和新一代冷却机技术研制开发的新型冷却机。该冷却机已于2011年12月通过中国建材联合会科技成果鉴定。

WHEC Generation 4 Stepping Cooler is a new-type cooler developed by our company through over 20 years of research achievement and design experience and by absorbing advanced cooling process and new-generation cooling technology domestically and abroad. This type of cooler was authenticated as scientific and technological achievement by China Building Material Association in 2011.



规格与性能参数表 Specification

规格型号 Type	产量 Output (t/d)	篦床有效面积 Grate bed effective area (m ²)	单位面积产量 Unit area capacity (t/m ² .d)	驱动方式 Drive
WHEC-1000	1000~1100	27.7	39.7	液压 Hydraulic
WHEC-1200	1200~1300	30.5	42.6	液压 Hydraulic
WHEC-1500	1500~1600	36.1	44.3	液压 Hydraulic
WHEC-2000	2000~2100	46.6	45	液压 Hydraulic
WHEC-2500	2500~2600	64.8	40.1	液压 Hydraulic
WHEC-3000	3000~3200	75.8	42.2	液压 Hydraulic
WHEC-3500	3500~3700	87.8	42.1	液压 Hydraulic
WHEC-4000	4000~4500	107.5	41.9	液压 Hydraulic
WHEC-5000	5000~5500	131.8	41.7	液压 Hydraulic
WHEC-6000	6000~6500	154.6	42	液压 Hydraulic



技术指标 Technical indexes

- | | |
|--|--|
| ① 产量1000–12000t/d | ① Capacity 1,000–12,000tpd |
| ① 热效率 $\geq 75\%$ | ① Heat efficiency $\geq 75\%$ |
| ① 入料温度1371 $^{\circ}\text{C}$ | ① Material inlet temperature 1371 $^{\circ}\text{C}$ |
| ① 出料温度65 $^{\circ}\text{C}$ +环境温度 | ① Material outlet temperature 65 $^{\circ}\text{C}$ +ambient temperature |
| ① 出料熟料粒度 $\leq 25\text{mm}$ | ① Grain size of outlet clinker $\leq 25\text{mm}$ |
| ① 备运转率 $\geq 98\%$ | ① Operation ratio $\geq 98\%$ |
| ① 用风量 $\leq 1.9\text{Nm}^3/\text{kg}\cdot\text{c}$ | ① Gas volume $\leq 1.9\text{Nm}^3/\text{kg}\cdot\text{cl}$ |
| ① 冷却单元寿命：4–5年 | ① Service life of cooling unit: 4–5 years |

特点简介 Characteristics

- ① 国际最先进的步进式输送技术，各列向单元一起同时向熟料输送方向移动，然后各列向单独或交替进行移动。
With the internationally most advanced step type conveying technology, all the conveying units carrying clinker move simultaneously towards clinker conveying direction, and then move individually or alternatively.
- ① 高效输送系统,按生产能力配置列向单元数量;在冷却机两侧的列向单元上的熟料输送速度和冷却风量也可以调节,使熟料得以冷却,阻止“红河”现象的生成。
In this high efficiency conveying system, the numbers of conveying units is determined by the capacity. The speed of clinker conveying and the volume of cooling air on the unit at both sides of the cooler can be adjusted to cool the clinker and prevent the “red river” .
- ① 模块化设计、安装便捷。
Modular design makes the installation more convenient.
- ① 篦床宽度方向冷却风更为均匀,有利于熟料的进一步冷却和热回收,达到高的冷却和热回收效率。
More uniformity of cooling gas in grate bed lateral direction is good for the further cooling and heat recovery of clinker, which can realize the high efficiency of the cooling and heat recovery.
- ① 智能控制系统,拥有故障自诊断,自动模式转换,优化操作,操作更简单
Intelligent control system has the functions of automatic fault inspection and automatic mode switching. The operation is optimized and becomes easier.
- ① 高的可靠性,低磨损,低的运行费用。
High reliability, low wear, and low operation cost.
- ① 无漏料,低净空。
No leakage and low clearance.



ROTARY KILN USED IN THE CEMENT INDUSTRY

水泥工业用回转窑

● 概 述

水泥工业中回转窑是烧成系统的核心设备。自上世纪70年代初起，合肥水泥研究设计院针对我国水泥工业的需要开发设计了一系列的水泥回转窑，规格从600T/D到6000T/D。不仅在我国水泥工业获得大量应用，还出口到越南、巴基斯坦、沙特、约旦、埃塞俄比亚等国家。同时我院还接受了钢铁、非金属等企业的要求，开发设计了该行业所用的回转窑。

Rotary kiln used in the Cement Industry is the critical equipment of pyro-processing system. Since early 1970s, Hefei Cement Research & Design Institute has developed a series of rotary kiln used in cement industry with capacity ranging from 600t/d to 6000t/d on Cement Production Line. With the development of Chinese Cement Industry in the 21st Century, rotary kilns designed by Hefei Cement Research & Design Institute have obtained wide application not only in Chinese Cement Industry, but also in Vietnam, Pakistan, Saudi Arabia, Jordan, Ethiopia, etc. Meanwhile, Hefei Cement Research & Design Institute has developed and designed rotary kilns used in the Steel Industry, Non-metallic Industry etc.





特点简介 Characteristics

- ① 托轮轴瓦采用锌基合金，它具有重量轻、摩擦系数小、导热率低的明显优点
- ① 窑尾密封可采用多种形式，供用户选择
- ① 设备运转安全可靠，完全能满足工艺运转周期的要求
- ① The bearing tile of supporting roller shall be made of zinc-base alloy which is characterized particularly by light weight, low friction coefficient and low heat conduction.
- ① Different types of kiln inlet seal are available for customer's. Choice.
- ① High safety and reliability of performance shall fully satisfy the requirement of stable operation.

规格与性能参数表 Specification

规格型号 Type	产量 Output (t/d)	窑转速 Rotating speed (r.p.m)	主电机功率 Main Motor Power (kW)
Φ3.2×46	1000	3.357	125
Φ3.5×52	1500	3.26	190
Φ4.0×60	2500	4.147	315
Φ4.3×64	3000	4.16	420
Φ4.6×70	4000	4.01	630
Φ4.8×74	5000	4.12	630
Φ5.0×80	6000	4.23	750
Φ5.2×78	6000	4.17	800

注：此表只列出1000T/D以上的窑的参数。

Note: This table only shows the parameters of kilns above 1000t/d.



CXS GLASS FABRIC BAG FILTER

CXS型玻纤袋收尘器

概述 Introduction

CXS系列反吹风袋式除尘器是我公司研制的一种高效收尘设备，该除尘器采用三状态清灰工艺，并增加了声波助清灰技术。该除尘器在250℃以下高含尘浓度烟气条件下，能长期高效运行，出口排放浓度 $<30\text{mg}/\text{Nm}^3$ ，可广泛用于水泥、电力、冶金等工业窑炉废气的净化。水泥行业主要用于回转窑尾、篦式冷却机的烟气收尘。

CXS series reverse blow bag filter is highly efficient dedusting equipment designed and manufactured by our company.

The equipment adopts three-state-dust-cleaning process and sound wave dust cleaning facilitation technology as well. This equipment can operate efficiently for a long time under the condition of high dust concentration at the temperature of 250℃, emission concentration lower than $30\text{mg}/\text{Nm}^3$. It can be widely used in cement, power, iron and steel industries to purify exhaust gas. In cement industry, it is mainly used in the rotary kiln inlet and the grate cooler.

特点简介 Characteristics

- ① 有正、负压两种，采用自动缩袋清灰。
- ① 能在不停机情况下进行维修、换袋而不影响生产。
- ① There are two types: positive and negative pressure. The filter bags will automatically shrink for cleaning.
- ① The maintenance and changing of bags can be carried out while the equipment is running, production will not be interrupted.

技术指标 Technical Indexes

- ① 收尘器排放低于 $30\text{mg}/\text{Nm}^3$
- ① 收尘器实现PLC微机运行后清、卸灰、自动报警全自动控制
- ① 收尘器滤袋平均寿命两年以上
- ① 一次性投资低，约低电收尘器20%
- ① 无事故排放，安全性强
- ① Concentration of emission is lower than $30\text{mg}/\text{Nm}^3$.
- ① Full automatic control for dust cleaning, dust discharge and automatic alarm through PLC.
- ① Average service life of filter bag is longer than 2 years.
- ① The investment is about 20% lower compared with electrostatic precipitator.
- ① Operate safely without accidental emission.





规格与性能参数表 Specification

性能项目 Item	系列 Series	CXS (II) 900-2xn		
	N	5	7	9
处理风量 Capacity (m ³ /h)		200000	280000	360000
单元数 Nos. of Chamber		10	14	18
总过滤面积 Filtering Area(m ²)		9000	12600	16200
滤袋规格 Size of Bag		Φ0.2 × 10	Φ0.2 × 10	Φ0.2 × 10
过滤风速 Filtering Speed (m/min)		0.4	0.4	0.4
总重量 Total Weight (t)		210	300	390

性能项目 Item	系列 Series	CXS (II) 1300-2xn		
	N	5	7	10
处理风量 Capacity (m ³ /h)		275000	385000	550000
单元数 Nos. of Chamber		10	14	20
总过滤面积 Filtering Area(m ²)		12800	17920	25600
滤袋规格 Size of Bag		Φ0.3 × 12	Φ0.3 × 12	Φ0.3 × 12
过滤风速 Filtering Speed (m/min)		0.4	0.4	0.4
总重量 Total Weight (t)		330	460	660

FGM (M) HIGH CONCENTRATION AND EXPLOSION PROOF BAG FILTER

FGM (M) 高浓度、防爆型袋收尘器

概述 Introduction

FGM (M) 系列防爆型袋式除尘器是我公司的拳头产品, 获得国家建材局科技进步奖及中国建材机械行业名牌产品。适用于易燃易爆的粉尘治理和煤粉收集。该产品采用阻燃、防爆结构设计, 所有集灰面设置防尘板, 自动锁调节防爆门压力、安全阀自动泄爆、灰斗溜角大, 防止有积灰现象产生, 采用高压脉冲多点喷吹、PLC自动控制。

FGM (M) Series Explosion-proof Bag Filter is the scientific achievement and representative product of our company. It received the bronze medal of Technology Progress of the State Administration of Building Materials Industry and has won "famous brand" by building material machinery industry for this achievement. With fire-proof and explosion-proof design, this product is widely used for flammable and explosive dust and pulverized coal collection. Dust proof sheet on dust-collecting cross section, safety valve and a large hopper valley angle ensures long term and high efficiency operation without any dust deposition. With automatically PLC control and high pressure jet pulse technology.



特点简介 Characteristics

- 能一次性处理含尘浓度 $\leq 1300\text{g}/\text{N m}^3$ 的煤粉
- 壳体承受的压力达 14000Pa
- 充分的阻燃措施, 避免高浓度煤粉自燃
- 脉冲清灰, 清灰强度大, 动作迅速
- 整机采用微机自动控制, 各控制参数易于调节, 投入自动时, 可实现无岗位工操作
- Able to deal with pulverized coal in concentration $\leq 1300\text{g}/\text{Nm}^3$.
- Pressure the shell can bear reaches 14000Pa .
- All-around flame-resistant arrangement to prevent pulverized coal in high concentration from spontaneous combustion.
- Remove dust in pulse operation to ensure high efficiency.
- The whole equipment is automatically controlled by computer, so parameters can be easily adjusted. Under automation mode, no person is needed for operation.

特点简介 Characteristics

- 当收尘器入口浓度 $\leq 1300\text{g}/\text{N m}^3$ 时, 出口排放 $\leq 20\text{mg}/\text{N m}^3$
- 收尘器钢耗 $23.7\text{kg}/\text{m}^2$
- 滤袋使用寿命二年以上
- 收尘器相对主机运转率100%
- When concentration at inlet is $\leq 1300\text{g}/\text{Nm}^3$, concentration at outlet is $\leq 20\text{mg}/\text{Nm}^3$.
- Steel for dust collector is $23.7\text{kg}/\text{m}^2$.
- Service life of filter bag exceeds 2 years.
- The operation rate of dust collector to main equipment is 100%.



FGM(M)规格与性能参数表

Specification of FGM(M)

参数 Parameter	规格型号 Type	32系列 (FGMM32-N) 32 Series (FGMM32-N)				64系列 (FGMM64-N) 64 Series (FGMM64-N)				96单排系列 (FGMM96-N) 96 Single-row Series (FGMM96-N)					FGMM 96-2X5	
		-3	-4	-5	-6	-4	-5	-6	-7	-4	-5	-6	-7	-8		-9
处理风量 Capacity (m ³ /h)		4700	6100	7600	9100	12200	15300	18400	21500	18400	23100	27600	32200	36800	41400	46100
过滤面积 Filtration area (m ²)		96	128	160	192	256	320	384	448	384	480	576	672	768	864	960
滤袋总数 (条) Total number of bags		96	128	160	192	256	320	384	448	384	480	576	672	768	864	960
过滤风速 Velocity of filtering air (m/min)		0.80														
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤1300														
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20														
除尘器承受负压 Negative pressure borne by bag filter (Pa)		14000														
清灰压缩空气压力 Compressed Air for removing cleaning Pressure (MPa)		0.4-0.6														
清灰压缩空气耗气量 Compressed Air for removing cleaning Volume (m ³ /min)		0.3	0.4	0.5	0.6	1.0	1.1	1.2	1.3	1.0	1.1	1.2	1.3	1.4	1.5	1.5
设备重量(吨) Weight of equipment (t)		4.0	5.0	6.5	8.0	10	12	14	17	14	17	20	23	26	29	34

参数 Parameter	规格型号 Type	96双排系列 (FGM96-2xN) 96 Double Series (FGM96-2xN)				128单排系列 (FGM128-N) 128 Single-row Series (FGM128-N)				128双排系列 (FGM128-2xN) 128 Double Series (FGM128-2xN)							
		-2x6	-2x7	-2x8	-2x9	-7	-8	-9	-10	-2x6	-2x7	-2x8	-2x9	-2x10	-2x11	-2x12	
处理风量 Capacity (m ³ /h)		55200 -82900	64500 -96700	73700 -110600	82900 -124400	53700 -80500	61000 -92000	55200 -82900	55200 -82900	55200 -82900	55200 -82900				36800	41400	46100
过滤面积 Filtration area (m ²)															768	864	960
滤袋总数 (条) Total number of bags															768	864	960
过滤风速 Velocity of filtering air (m/min)		0.80															
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤1300															
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20															
除尘器承受负压 Negative pressure borne by bag filter (Pa)		14000															
清灰压缩空气压力 Compressed Air for removing cleaning Pressure (MPa)		0.4-0.6															
清灰压缩空气耗气量 Compressed Air for removing cleaning Volume (m ³ /min)		1.6	1.8	2.0	2.2	1.8	2.0	2.2	2.4	2.2	2.4	2.5	3.0	3.2	3.5	4.0	
设备重量(吨) Weight of equipment (t)		33	38	43	48	22.5	26	29.5	33	38.5	44.8	51.2	57.6	64	70	77	

FGM PLENUM PULSE BAG FILTER

FGM气箱脉冲袋收尘器

概述 Introduction

FGM气箱脉冲袋式除尘器集分室反吹和脉冲喷吹诸类除尘器的优点，单位体积处理风量大，系统阻力小，除尘效率高。可直接处理含尘浓度高达 $1300\text{g}/\text{Nm}^3$ 的含尘气体，经处理后气体的排放浓度低于 $20\text{mg}/\text{Nm}^3$ 。根据工况情况，采用不同的滤料，型号规格从32系列~192系列数十种规格，最大处理风量可达 $1000000\text{ m}^3/\text{h}$ 。可以满足不同废气特性要求。如采用覆膜滤袋，除尘器阻力 $<1400\text{Pa}$ ，可以满足更加严格的排放要求。配用优质脉冲阀，其使用寿命超过100万次。采用先进的PLC可编程控制器，来实现整个除尘系统的清灰、卸灰自动控制。控制精确、灵活，操作简单，修改参数方便。整机可分室换袋，维修、维护简单方便。该产品获得国家建材局科技进步奖。

FGM Series Plenum-pulse Bag Filter integrates advantages of split-chamber backflow dust collector and jet-pulse dust collector. It is designed with a big unit air flow and can work efficiently. It can be used directly for highly dense gas up to $1300\text{g}/\text{Nm}^3$, and the density drops to lower than $20\text{g}/\text{Nm}^3$ after treatment. Different filter materials are used, depending on different working conditions. FGM Series Plenum-pulse Bag Filter can be divided into more than 10 models from series 32 to series 192. Maximum capacity can be up to $1000000\text{m}^3/\text{h}$. When filmed filter bags are taken into use and system resistance is lower than 1400 Pa , it can meet higher discharge standards. With high-quality pulse valve (more than 1 million times guarantee) and high tech PLC (Programmable Logic Controller) adopted, the whole process is convenient and the maintenance is simple. This product has won Technology Progress Award by State Bureau of Building Materials.

特点简介 Characteristics

- ① 能一次性处理含尘浓度高达 $1300\text{g}/\text{Nm}^3$ 的烟尘
- ① 无需预收尘设备，工艺流程简单
- ① 袋室内无需喷吹管，拆换袋方便
- ① 嵌入式弹性袋口，密封性能好
- ① 脉冲阀数量少，清灰强度大，动作迅速
- ① 整机采用微机自动控制，各控制参数易于调节，投入自动时，可实现无岗位工操作
- ① Able to treat smoke with dust concentration $1300\text{g}/\text{Nm}^3$ at one time.
- ① No equipment for pre-collecting dust is necessary, which brings out a simple process flow.
- ① Without jet pipe in bag chamber, it is convenient to replace bags.
- ① The embedded elastic bag mouth helps in good sealing.
- ① Number of pulse valves is small; operation of removing dust is highly efficient.
- ① The whole equipment is automatically controlled by computer. Under automation mode, no person is needed for operation.

技术指标 Technical indexes

- ① 当收尘器入口浓度 $\leq 1300\text{ g}/\text{Nm}^3$ 时，出口排放 $\leq 20\text{mg}/\text{Nm}^3$
- ① 收尘器钢耗 $23.7\text{kg}/\text{m}^2$
- ① 壳体耐压 8000Pa
- ① 滤袋使用寿命二年以上
- ① 收尘器相对主机运转率 100%
- ① When concentration at inlet is $\leq 1300\text{g}/\text{Nm}^3$, emission concentration at outlet is $\leq 20\text{mg}/\text{Nm}^3$.
- ① Steel for bag filter is $23.7\text{ kg}/\text{m}^2$.
- ① Pressure the shell can bear reaches 8000Pa .
- ① Service life of filter bag is longer than 2 years.
- ① The operation rate of dust collector to main equipment is 100% .





FGM(PPDC)规格与性能参数表

Specification of FGM(PPDC)

参数 Parameter	规格型号 Type	32系列 (FGMM32-N) 32 Series (FGMM32-N)				64系列 (FGMM64-N) 64 Series (FGMM64-N)				96单排系列 (FGMM96-N) 96 Single-row Series (FGMM96-N)					FGMM 96-2X5	
		-3	-4	-5	-6	-4	-5	-6	-7	-4	-5	-6	-7	-8		-9
处理风量 Capacity (m ³ /h)		4700 -6800	6100 -9100	7600 -11500	9100 -13700	12200 -18300	15300 -23000	18400 -27600	21500 -32200	18400 -27600	23100 -34500	27600 -41400	32200 -48300	36800 -55300	41400 -62200	46100 -69100
过滤面积 Filtration area (m ²)		96	128	160	192	256	320	384	448	384	480	576	672	768	864	960
滤袋总数 (条) Total number of bags		96	128	160	192	256	320	384	448	384	480	576	672	768	864	960
过滤风速 Velocity of filtering air (m/min)		0.8-1.2														
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤1300														
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20														
除尘器承受负压 Negative pressure borne by bag filter (Pa)		8000														
清灰压缩空气压力 Compressed Air for removing cleaning Pressure (MPa)		0.4-0.6														
清灰压缩空气耗气量 Compressed Air for removing cleaning Volume (m ³ /min)		0.3	0.4	0.5	0.6	1.0	1.1	1.2	1.3	1.0	1.1	1.2	1.3	1.4	1.5	1.5
设备重量 (吨) Weight of equipment (t)		2.5	3.5	4.5	5.5	7.0	8.3	9.6	11	8.6	10	12.5	14	16	18	20

参数 Parameter	规格型号 Type	96双排系列 (FGM96-2xN) 96 Double Series (FGM96-2xN)				128单排系列 (FGM128-N) 128 Single-row Series (FGM128-N)				128双排系列 (FGM128-2xN) 128 Double Series (FGM128-2xN)						
		-2x6	-2x7	-2x8	-2x9	-7	-8	-9	-10	-2x6	-2x7	-2x8	-2x9	-2x10	-2x11	-2x12
处理风量 Capacity (m ³ /h)		55200 -82900	64500 -96700	73700 -110600	82900 -124400	53700 -80500	61000 -92000	69000 -103000	76000 -115000	92200 -138200	107000 -161000	122000 -184000	138000 -206000	152000 -230000	168000 -253000	184000 -278000
过滤面积 Filtration area (m ²)		1152	1344	1536	1728	1119	1279	1438	1598	1918	2238	2557	2877	3196	3517	3837
滤袋总数 (条) Total number of bags		1152	1344	1536	1728	896	1024	1152	1280	1536	1792	2048	2304	2560	2816	3072
过滤风速 Velocity of filtering air (m/min)		0.8-1.2														
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤1300														
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20														
除尘器承受负压 Negative pressure borne by bag filter (Pa)		8000														
清灰压缩空气压力 Compressed Air for removing cleaning Pressure (MPa)		0.4-0.6														
清灰压缩空气耗气量 Compressed Air for removing cleaning Volume (m ³ /min)		1.6	1.8	2.0	2.2	1.8	2.0	2.2	2.4	2.2	2.4	2.5	3.0	3.2	3.5	4.0
设备重量 (吨) Weight of equipment (t)		25	28	32	36	21	24	26	28	37	42	48	55	60	65	72



HKD BAG FILTER FOR DRYERS

HKD型烘干机袋式除尘器

概述 Introduction

HKD烘干机袋式除尘器是我公司根据水泥烘干机高温高湿烟气特性研究设计的新产品，该产品解决了烘干收尘易结露糊袋、腐蚀磨损等问题，采用箱体结构设计，便于安装施工，运行管理简单，两项关键技术获得国家专利，并获得安徽省科技进步奖二等奖。

HKD dryer baghouse is designed by our company according to the research of the high temperature and humidity characteristics of the cement dryer flue gas of new products, this product solved the problem of condensation, burnt, corrosion and wearing of bags during drying and dust collecting process, box-shaped chamber is easy for installation and construction, operation and management is simple, two key technologies has obtained national patent, and Anhui Science and Technology progress Award.



特点简介 Characteristics

- ① 漏风小，清灰时对相邻小袋室无污染
- ① 无“二次扬尘”和“粉尘再附”现象
- ① 结构紧凑，重量轻
- ① 箱体结构设计，易于现场装配
- ① 滤袋的使用寿命长等优点
- ① 过滤工况:HKD型袋式除尘器的第一大优点是采用具有拦阻和过滤双除尘机理组合结构。含尘烟气由灰斗上方的进风管道进入过滤室的滤袋中，进气管道内设置有导向导流器，粗颗粒粉尘在导向导流器的拦阻及重力的作用下落入灰斗，实现了粉尘的预分离，减少了粉尘对滤袋的磨损。细粉尘随气流涌入滤袋，粉尘被滞留在滤袋上，气流则透过滤袋得到净化，净化后的气流通过引风机排入大气中
- ① 清灰工况:HKD型袋式除尘器的第二大优点是用提升切换阀（柔性接触）替代其它类型烘干机袋式除尘器一个袋室需要一个排风蝶阀（刚性接触）和反吹风蝶阀（刚性接触）同时动作才能完成反吹清灰工作，易于实现“组合状态”清灰控制过程，清灰效果理想
- ① Low volume of air leakage and no pollution to neighboring small chambers during cleaning.
- ① No secondary dust emission and re-adhering.
- ① Compact structure and light weight.
- ① Structure design of shell facilitates local assembly.
- ① Longer service life of filter bag.
- ① Operation of filtration: The primary advantage of HKD bag filter for dryer is that it adopts the mechanism structures in combination of obstructing and filtration. Dust-laden smoke enters filter bags in filter chamber through the air inlet duct over the hopper. With deflector set in air duct, dust in coarse granule can fall into the hopper due to obstruction by deflector and self-gravity, which is known as pre-collecting. Therefore, abrasion of filtering bag by dust can be eased. Fine dust swarms into filter bags with airflow, where dust is retained onto filter bags and air could be purified before being exhausted outside by draft fan.
- ① Operation of cleaning: The secondary advantage of HKD bag filter is to apply the lifting-type switch valve (flexible contact), rather than discharge butterfly valve (rigid contact) with reverse blow butterfly valve (rigid contact) that shall be necessarily installed together for each bag chamber of other types of bag filters for dryer. This enables operations for removing dust to be easily controlled and highly efficient.



规格与性能参数表 Specification

参数 Parameter	规格型号 Type				
	HKD BAG FILTER FOR DRYERS				
	HKD170-4	HKD230-4	HKD400-4	HKD400-6	HKD400-8
处理风量 Capacity (m ³ /h)	15,000 ~ 20,000	23,000 ~ 25,000	45,000 ~ 47,000	68,000 ~ 72,000	92,000 ~ 95,000
过滤面积 Filtration area (m ²)	680	920	1600	2400	3200
单元数 Number of units	4	4	4	6	8
过滤风速 Velocity of filtering air (m/min)	< 0.5				
阻力 Resistance	1000 ~ 1700				
适用温度 Applicable with temperature (°C)	≤ 180				
进口含尘浓度 Dust concentration at inlet (g/Nm ³)	≤ 200				
出口排放浓度 Emission concentration at outlet (mg/Nm ³)	≤ 30				
外形尺寸 (长 × 宽 × 高) Outline dimension (length × width × height)	6800 × 5900 × 9600	6800 × 6940 × 9600	6900 × 9100 × 11350	9400 × 9100 × 11350	11900 × 9100 × 11350
适用机烘干机 Applied dryer (m)	Φ 1.5 × 12	Φ 2.2 × 14	Φ 2.4 × 18	Φ 3.0 × 20	Φ 3.5 × 35



DMC SERIES JET-PULSE UNIT BAG FILTER

DMC系列喷吹脉冲单机袋式收尘器

概述 Introduction

- DMC系列喷吹脉冲单机袋式收尘器适用于破碎、输送、提升、配料、库顶、库底、水泥散装等处的粉尘治理，可以连续工作，无须停机清灰
- 收尘器可分成不同的安装形式：不带灰斗(B)及支腿型、带灰斗(A)及长支腿型、带灰斗(A)及短支腿型；风机可 90° 、 0° ，根据需要选择
- 压缩空气必须保证 $0.5 \sim 0.7\text{MPa}$ 的压力，否则影响清灰效果
- DMC series jet-pulse unit bag filter is applicable for dust collecting in various sections, such as crushing, conveying, elevating, proportioning, silo top, silo bottom and bulk cement. It could operate continuously without necessity to stop the equipment for removing dust.
- The dust collector could be erected in different ways: without hopper and bracing; with hopper and long bracing; with hopper and short bracing; Fans can be set in 90° and 0° angles depending on requirements.
- Pressure of compressed air should be ensured within $0.5 \sim 0.7\text{MPa}$, or else operation for removing dust would not be efficient.

特点简介 Characteristics

- 采用两侧开门，检修更换滤袋方便，不受顶部高度的影响
- 滤袋座与文丘里管的固定采用螺纹连接形式，滤袋骨架与袋座采用弹性联接，拆装方便
- 采用微机自动控制清灰
- 安装有防滤袋脱落网，更适合库顶使用
- Set doors at both sides for convenient maintenance and replacement of bag, which shall be restricted by overhead space.
- Base for filter bag and Venturi pipe are fixed through threaded connection. Cage and base are connected flexibly for easy dismounting and assembly.
- Dust removal is controlled by computer automatically.
- A net is installed to avoid bag's falling down to silo. It is more suitable for operation on top of silo.

技术指标 Technical indexes

- 收尘器入口含尘浓度低于 $200\text{g}/\text{Nm}^3$
- 收尘器排放浓度低于 $20\text{mg}/\text{Nm}^3$
- 收尘器滤袋寿命两年以上
- 收尘器运转率相对主机100%
- Dust concentration at inlet is below $200\text{mg}/\text{Nm}^3$.
- Emission concentration is below $20\text{mg}/\text{Nm}^3$.
- Service life of filter bags is over 2 years.
- The operation rate of bag filter to main equipment is 100%.





规格与性能参数表 Specification

参 数 Parameter		规格型号 Type					
		DMC-32	DMC-48	DMC-64	DMC-80	DMC-96	DMC-112
处理风量 Capacity (m ³ /h)		1440-2010	2160-3020	2880-4030	3600-5040	4320-6040	5040-7050
过滤面积 Filtration area (m ²)		24	36	48	60	72	84
滤袋总数 (条) Total number of bags		32	48	64	80	96	112
脉冲阀数量 Number of pulse valve		4	6	8	10	12	14
过滤风速 Velocity of filtering air (m/min)		1.0-1.4					
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤200					
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20					
阻力 Resistance(Pa)		≤1200					
除尘器承受负压 Negative pressure borne by bag filter (Pa)		5000					
清灰压缩空气压力 Compressed Air for removing cleaning Pressure (MPa)		0.4-0.6					
清灰压缩空气耗气量 Compressed Air for removing cleaning Volume (m ³ /min)		0.04	0.05	0.07	0.08	0.1	0.12
设备重量 Weight of equipment (t)	(A)	1.35	1.62	1.85	2.36	2.80	3.20
	(B)	1.22	1.47	1.67	2.15	2.54	2.88

CDMC LONG-BAG PULSE BAG PULSE FILTER

CDMC长袋脉冲布袋式除尘器

概述 Introduction

CDMC系列脉喷袋式除尘器；主要适用各种工业炉窑等烟气的治理。根据高温烟气的特质，采用耐高温、耐腐蚀滤料，设备本体防热变形、模块化结构设计、高气密性、高适应性，使本产品具有优越的除尘性能和方便的操作维护特性。产品自主研发，专利号：ZL200520000040.2，具有完全自主知识产权，已广泛应用于各种水泥干法生产线窑头、窑尾高含尘浓度烟气净化系统，排放浓度可满足最严格的要求($<30\sim 10\text{mg}/\text{Nm}^3$)，设备阻力低于1200Pa。产品规格满足2000~10000t/d各种水泥生产线。在其他工业炉窑如冶金、钢铁冶炼、火力发电等高温烟气治理中也得到广泛应用。产品被授予中国建材机械行业名牌产品，并分别获国家环保部、安徽省、中国建材联合会及中国建材集团科技进步奖。

CDMC Long-Bag Pulse Bag Pulse Filter is designed to meet the requirements of industrial boiler/ kiln. It uses high-temperature and corrosion resisting material, and the chamber is designed with a modular structure to prevent heat deformation. The chamber is well insulated and air-tight tested. The CDMC series works with high efficiency and high adaptability.

CDMC Long-Bag Pulse Bag Pulse Filter is designed by Hefei Zhongya Environmental Protection Technology Co., Ltd. (Patent No. ZL200520000040.2). we have fully independent intellectual property rights. This series is widely used in all kinds of kiln inlet and outlet high-density cleaning systems of different types of dry process cement production lines. The emission can meet the most stringent requirements($<30\sim 10\text{mg}/\text{Nm}^3$), system resistance lower than 1200Pa. CDMC series can meet the demand of 2000~10000t/d cement production lines, and can also be used in the cleaning system of many other Industrial furnace kilns, iron and steel industry, thermal power plants. This product has won "famous brand" by building material machinery industry, and has won Technology Progress Award by State Bureau of Building Materials, Ministry of Environmental Protection, Anhui, China Building Materials Federation.



特点简介 Characteristics

- ① 设计新颖，采用下进气结构，较粗的高温颗粒直接落入灰斗，有效的保护了滤袋
- ① 采用长滤袋，在同等处理能力时设备占地面积少，更便于老厂改造。
- ① 采用分室离线清灰，效率高，粉尘的二次吸附少，同时有效的降低了设备能耗，滤袋与脉冲阀的疲劳程度也相应降低，成倍地提高了滤袋和阀片的寿命，减少了设备运行维护的费用。
- ① 检修换袋可在不停系统风机、系统正常运行的条件下分室进行
- ① 滤袋袋口采用弹簧涨紧结构，拆装方便，具有良好的密封性
- ① 箱体经过气密性设计，并以煤油检漏，最大程度上减少漏风
- ① 整台设备由PLC机控制，实现自动清灰、卸灰、自动温度控制及超温报警
- ① hopper directly to effectively protect filter bags.
- ① With long bags, equipment takes less area compared with others in the same capacity. It is especially favorable for upgrading of existing plants.
- ① Off-line dust removal in separate chambers featured as follows: high efficiency; less secondary dust re-adhering; lower power consumption; extended service life of bags and valve plate due to less fatigue. In this way, expense for equipment maintenance could be greatly reduced.
- ① Maintenance and replacement of bag can be separately conducted in each chamber without interrupting the whole operation system and fans.
- ① Apply spring take-up at bag mouth for easy maintenance and replacement and favorable air tightness.
- ① The design of shell takes air tightness into consideration and use kerosene for inspection, so as to reduce air leakage to the largest extent.
- ① Equipment is controlled through PLC to realize automatic dust removal, dust discharge, temperature control and over-temperature alarming.



○ 技术指标 Technical indexes

- ① 排放低于30mg/N m³
- ① Emission concentration is below 30 mg/N m³.
- ① 烟气脱硫达90%
- ① Smoke desulfurization is up to 90%.
- ① 滤袋平均寿命在3年以上
- ① The average life service is over 3 years.
- ① 运转率相对主机达100%
- ① The operation rate of dust collector to main equipment is 100%.

○ 规格与性能参数表 Specification

参数 Parameter	规格型号 Type	CDMC154 ~ 308
处理风量 Capacity (ten thousand m ³ /h)		20 ~ 160
过滤面积 Filtration area (m ²)		4640 ~ 30000
滤袋总数 (条) Total number of bags		1540 ~ 9240
过滤风速 Velocity of filtering air (m/min)		0.8 ~ 1.0 (工况不同, 滤材不同均影响此参数选取) (This parameter is influenced by different working conditions and filter materials.)
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤ 1000
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤ 30
除尘器承受负压 Negative pressure borne by bag filter (Pa)		8000
清灰压缩空气 Compressed Air for removing cleaning	压力 Pressure (MPa)	0.2-0.4 (采用3寸淹没式脉冲阀) (Adopting 3" submerged pulse valve)
	耗气量 Volume (m ³ /min)	3.0 ~ 10



KDMC SERIES LOW-RESISTANCE BAG FILTER FOR GGBS GRINDING SYSTEM

KDMC矿渣粉磨大型低阻袋式除尘器

概述 Introduction

KDMC矿渣粉磨大型低阻袋式除尘器是针对矿渣微粉的特性（湿含量高、浓度高、粉尘颗粒细、粉尘难以剥离）而研发设计。除尘器采用两项发明专利技术（专利号：200710019735.9和200710020183.3），最大限度地增加粉尘惯性沉降量，降低滤袋粉尘负荷，提高清灰效率，减少滤料粉尘吸附量，降低滤袋粉尘阻力。与同规格的其他袋除尘器相比，系统风机节电15%—40%，出口排放浓度 $\leq 20\text{mg}/\text{Nm}^3$ 。产品分别获得环保部、中国建材联合会、中国建材集团科技进步奖。

KDMC Series Low-resistance Bag Filter for GGBS Grinding System is designed to satisfy the characteristics of the slag powder (high moisture, high concentration, fine dust particle, dust hard to be peeled). Armed with two patent technologies (patent number: 200710019735.9 and 200710020183.3), it can maximize dust inertia settlement, reduce load of dust, improve cleaning efficiency, reduce adsorption capacity of filter dust and reduce resistance of bag dust. Compared to other bag filters of the same specifications, this product has the following advantages: 15% – 40% less power consumption for fans; emission concentration $\leq 20\text{mg}/\text{Nm}^3$. This product has won Technology Progress Award by State Bureau of Building Materials, Ministry of Environmental Protection, and China Building Materials Federation.

特点简介 Characteristics

- ① 结构设计采用两项发明专利，设备运行阻力低，节电节能。
- ① 箱管结合清灰技术，清灰压力低，清灰效率高，滤袋寿命长。
- ① 各袋室设有测压装置，中控室可同步监控设备运行状态。
- ① 采用亚克力覆膜滤料，耐水解。
- ① The design is based on two patents; low running resistance of system will save energy.
- ① The combine of chamber and pipes cleaning technology, low pressure, high cleaning efficiency, long bag life.
- ① Each bag chamber has a pressure meter. The control room can monitor the running status of the device.
- ① Acrylic membrane filter media, anti hydrolysis.

技术指标 Technical indexes

- ① 处理风量30—100万 m^3/h 。
- ① 排放浓度 $\leq 20\text{mg}/\text{Nm}^3$ 。
- ① 整机阻力600—800Pa。
- ① 滤袋正常使用寿命可以达到3至4年。
- ① 相对主机运转率100%。
- ① Gas velocity 30—100 ten thousand m^3/h
- ① Outlet dust concentration $\leq 20\text{mg}/\text{Nm}^3$ 。
- ① Pressure drop 600—800Pa。
- ① The average life service is over 3—4 years.
- ① The operation rate of dust collector to main equipment is 100%.





规格与性能参数表 Specification

参 数 Parameter	规格型号 Type	KDMC96 ~ 192
处理风量 Capacity (ten thousand m ³ /h)		30 ~ 100
过滤风速 Velocity of filtering air (m/min)		0.8 ~ 1.0
进口含尘浓度 Dust concentration at inlet (g/Nm ³)		≤1400
出口排放浓度 Emission concentration at outlet (mg/Nm ³)		≤20
除尘器承受负压 Negative pressure borne by bag filter (Pa)		8000
清灰压缩空气 Compressed Air for removing cleaning	压力 Pressure (MPa)	0.15~0.4 (采用3寸淹没式脉冲阀) (Adopting 3" submerged pulse valve)
	耗气量 Volume (m ³ /min)	1.5 ~ 5

MODEL CDPK-E ELECTROSTATIC PRECIPITATOR

CDPK-E型电除尘器

概述 Introduction

合肥中亚环保科技有限公司在国内最先研制成功宽间距电除尘器，并应用于水泥行业粉尘治理。96年引进美国EE公司具有国际先进水平的电除尘器技术，在此基础上消化、吸收、开发了CDPK-E型电除尘器，成功应用于建材、冶金、电力等领域。电除尘器结构采用耐磨抗腐蚀、抗高温热变形设计，应用宽间距技术，放电极系统采用整体钢性框架确保其不折断、不脱落。收尘极是由轧制模块钢板组合，该结构与放电极组成最佳的板线配置系统，具有优越的放电特性。振打器可以全天候的室外工作，清灰效果好。产品规格可满足各种规模生产线的处理风量要求，排放浓度低于 $30\text{mg}/\text{Nm}^3$ 。该产品是中国建材机械行业名牌产品，并分别获得中国建材联合会、中国建材集团及合肥市科技进步奖。

Hefei Zhongya Environmental Protection Technology Co., Ltd. took the lead in successfully developing the wide electrostatic precipitator and applying it in dust treatment in cement production in China. In 1996, the company acquired internationally-advanced electrostatic precipitator technology from EE Company USA, based on which the company developed an electrostatic precipitator of Model CDPK-E. It has been successfully applied in building materials, metallurgy, power industries etc. The structure adopts wear-resistant and corrosion-resistant design, preventing deformation caused by high temperature. With application of wide-pitch technology and overall steel framework, it prevents the discharge electrode from breaking and falling, bringing better discharge result. Rapper can be operated outdoors for the whole days with high dust removal efficiency. With its all specifications, this product can meet the requirements of all kinds of cement production lines, emission concentration being lower than $30\text{mg}/\text{Nm}^3$. This product has won "famous brand" by building material machinery industry, and has won Technology Progress Award by State Bureau of Building Materials, CNBM and Hefei City.



特点简介 Characteristics

- ① 具有完全自主知识产权HFCDS系统电除尘器设计软件。
- ① 创建独立悬挂式电场。抗高温变形,保证除尘效率的高效和稳定。
- ① 可选择的组合振打清灰方式。无论何种振打方式,设备的外型尺寸以及内部结构尺寸不变。
- ① 各电场配置不同的新型电极,发挥各电场效能。
- ① 用有限元软件对电除尘器三维实体模型进行结构分析,优化设计,提高竞争力。
- ① With completely independent intellectual property rights HFCDS system of electrostatic precipitator design software
- ① Create independent suspension type electric field. Resistant to HT deformation and thus ensures high dust removal efficiency and stability
- ① Flexible two ash cleaning modes available for selection, i.e. side rapping and top rapping. No matter what the rapping mode is, the external dimensions and internal structural dimensions of the equipment are not changed
- ① Developing several types of different electrodes so as to adopt different electrode setup for different electric field.
- ① On the 3D solid electrostatic precipitator models for structural analysis, using the finite element software optimization design, improve competitiveness.

PWF/F/V/W SPOKE ROTOR POWDER CONSTANT FEEDING SYSTEM

PWF/F/V/W轮辐转子粉体定量给料系统

概述 Introduction

PWF/F/V/W轮辐转子粉体定量给料系统是合肥水泥研究设计院固泰自动化有限公司(原合肥金山科技实业公司)在几十年的计量技术研究和应用经验基础上,经过多年的自主研发,最新开发的新一代计量与配料装置。该装置技术先进、稳定可靠、计量准确、维护方便。主要用于水泥生产过程中入窑生料定量给料与控制,粉煤灰、矿渣粉等粉状物料的定量给料与计量,是粉粒物料新的计量与配料方式;也适用于冶金(如:烧结、球团等)、电力、化工等行业粉粒状物料的精确计量与配料。

PWF/F/V/W Spoke Rotor Powder Constant Feeding System is new generation device independently developed by Hefei Goodtimes Automation Co.,Ltd under Hefei Cement Research and Design Institute based on many years of practical experience of measuring technical research & application. It is characterized with advanced technology, stable and reliable operation, high measuring accuracy and convenient maintenance, mainly applied in quantitative feeding and metering of powdery material such as fly ash, slag power, and also applied in accurate metering and batching of powdery material in metallurgy (such as: sintering, pelletizing), electric power, chemical and other industries.



规格与性能参数表 Specification

规格型号 Specifications and type	喂料能力(m ³ /h) Feeding capacity (m ³ /h)	功率 (kW) Power (kW)	整机重量 (kg) Total Weight (kg)
PWF-0720	3 ~ 30	1.1	1500
PWF-0920	6 ~ 60	3.0	2000
PWF-1125	A型 Type A	8 ~ 80	2500
	B型 Type B	10 ~ 100	
PWF-1325	A型 Type A	15 ~ 150	3000
	B型 Type B	20 ~ 200	
PWF-1525	A型 Type A	25 ~ 250	4000
	B型 Type B	30 ~ 300	
PWF-1730	A型 Type A	35 ~ 350	5000
	B型 Type B	40 ~ 400	
PWF-1930	A型 Type A	50 ~ 500	6500
	B型 Type B	60 ~ 600	
PWF-2135	A型 Type A	70 ~ 700	9000
	B型 Type B	80 ~ 800	



特点简介 Characteristics

- ① 实行了预期控制技术，任何时刻的转子负荷及其所处角位移存储在控制系统中，在物料卸出前，由系统的设定流量值和负荷计算出卸料时的角速度，控制变频调速电机的速率，实现定量喂料，技术先进，喂料稳定。
- ① 直接测量转子内物料重量，计量精度不受料仓内物料属性、气流和物料流动特性的影响，计量准确。
- ① 结构简洁，全密封设计，内部仅有一个低速运行的转子在转动，操作简便，运行可靠，无泄漏。
- ① 采用轮辐式转子，物料自由下落工作方式，转子旋转过程中物料的波动和填充率的变化较小，喂料均匀，不串料。
- ① 采用预给料+预期控制技术，双环控制，技术先进，保证了喂料连续稳定，计量精度高。
- ① 独特地长寿命设计，使用寿命长，故障率低，维护简单。
- ① 采用PLC控制，可实现自动计量，定量喂料，自动校正，故障报警，瞬时流量和累计量显示等功能。
- ① 具有完善的信号传输与通讯功能，自动化程度高，功能强，适应现代化大中型水泥厂的自动控制要求。
- ① 布置安装简单，占用空间小，便于维护。
- ① It adopts spoke rotor with working mode of free falling of material. The fluctuation and filling rate change of material are small with uniform feeding and stable feeding in the rotating process of rotor.
- ① It is simply structured and fully closed. With only one rotor running slowly, it is easily operated and works stably without leakage.
- ① Material weight can be directly measured inside the rotor; measuring accuracy is high and unaffected by material property, air-flow and flow characteristics inside the silo.
- ① It realizes the expected control technology to store rotor load and its angular displacement at any time in the control system. Therefore, prior to materials discharge, the angular velocity of discharge can be calculated by using the set flow of the system and the load, thereby controlling speed of the frequency control motor so as to ensure stably constant feeding.
- ① It takes feeding and feed-forward control technology, dual loop control, advanced technology to ensure continuous and stable feeding and high measuring accuracy.
- ① It has a special design with advantages of long service life, low fault rate and easy maintenance.
- ① Functions such as automatic measurement, quantitative feeding, automatic correction, fault alarm, instantaneous flow rate and display of cumulative amount will be realized by PLC control.
- ① It has improved signal transmission and good communication functions which can meet the requirements of the automatic control of the large and medium-sized modern cement plants, with high automation level and strong functions.
- ① It is characterized with simple arrangement and installation, small occupation and easy maintenance.

应用 Applications

- ① 水泥行业：入窑生料定量给与与控制、粉煤灰定量给料、选粉机粗粉回料计量、多种粉粒或颗粒物料定量搭配、散装水泥计量。
- ① 烧结、球团计量与配料。
- ① 冶金、电力、化工、粮食、港口、医药、非金属矿等行业粉粒状物料的精确计量与配料。
- ① For cement industry: constant feeding and control of kiln feed raw meal, fly ash constant feeding, measurement of rejected material of coarse powder in classifier, constant batching of multiple powdery or particle material and bulk cement measurement.
- ① Measuring and batching of sintering and pelletizing
- ① For metallurgy, electric power, chemical, food, ports, medicine, non-metallic minerals industries, etc.: accurate measuring and batching of powdery material.

技术指标 Technical indexes

- ① 计量精度：≤ ±0.5%
- ① 控制精度：≤ ±1.0%
- ① 量程比：1:10
- ① 调速方式：变频调速
- ① Measuring accuracy: ≤ ±0.5%
- ① Control accuracy: ≤ ±1.0%
- ① Range ratio: 1:10
- ① Speed control mode: frequency control



PWF/V KILN FEED RAW MEAL FEEDING CONTROL SYSTEM

PWF/V入窑生料喂料控制系统

概述 Introduction

PWF/V 入窑生料喂料控制系统是把PWF轮辐转子粉体计量装置用于新型干法水泥厂入窑生料的计量与给料，它继承了PWF粉体计量装置计量准确、结构紧凑、维护方便、经久耐用等特点。整个系统安装高度低、调节灵敏、全封闭无泄漏、双环控制，是新型干法水泥生产线入窑生料的最佳计量方式。

该系统也适用于水泥、矿渣粉、熟料粉等大流量库侧卸料的粉状物料的计量与配料。

PWF/V Kiln feed raw meal feeding control system uses PWF spoke rotor powder metering device to control metering and feeding of kiln feed raw meal for new dry process cement plants. It inherits the characteristics of PWF powder metering device such as high measuring accuracy, compact structure, easy maintenance, long service life. The whole system is the best measuring way of kiln feed raw meal for new dry process cement plants, with low installation height, sensible adjustment, full sealing with no leakage, dual loop control.

It is also used for metering and batching of powdery material which is discharged from the side of mass flow silo, such as cement, slag powder and clinker power.



规格与性能参数表 Specification

规格型号 Specifications and type	喂料能力(m ³ /h) Feeding capacity(m ³ /h)	功率(kW) Power (kW)	整机重量(kg) Total weight (kg)	适用生产线规模 Applicable production line scale
PWF/V-1125	10~100	4.0	2500	1000t/d新型干法线 1000t/d new dry process production line
PWF/V-1325	20~200	5.5	3000	1500t/d新型干法线 1500t/d new dry process production line
PWF/V-1525	35~350	7.5	4000	2500 t/d新型干法线 2500 t/d new dry process production line
PWF/V-1730	40~400	9.2	5000	4000 t/d新型干法线 4000 t/d new dry process production line
PWF/V-1930	60~600	11	6500	5000 t/d新型干法线 5000 t/d new dry process production line
PWF/V-2135	80~800	15	9000	8000 t/d新型干法线 8000 t/d new dry process production line



特点简介 Characteristics

- ① 采用轮辐式转子，转子旋转过程中物料的波动和填充率的变化小，喂料均匀，不串料
- ① 直接测量转子内物料重量，计量精度不受料仓内物料属性、气流和物料流动特性的影响，计量准确。
- ① 采用预给料加预期控制技术，双环控制，技术先进，保证了喂料连续稳定。
- ① 全密封设计，操作简便，运行可靠，无泄漏。
- ① 独特的长寿命设计，使用寿命长，故障率低，维护简单。布置安装简单，占用空间小，便于维护。
- ① 刀口设计和轴线调节技术，灵敏、稳定、干扰小，保证了计量的高精度性和抗干扰能力。
- ① 用PLC控制，可实现自动计量，定量喂料，自动校正，故障报警，瞬时流量和累计量显示等功能。
- ① 完善的信号传输与通讯功能，功能强，适应现代化大中型水泥厂的自动控制要求。
- ① It adopts spoke rotor. The fluctuation and filling rate change of material are small with uniform feeding and stable feeding in the rotating process of rotor.
- ① Material weight can be directly measured inside the rotor; measuring accuracy is high and unaffected by material property, air-flow and flow characteristics inside of the silo.
- ① It adopts pre-feeder plus expected control technology with advantages of dual loop control and advanced technology, thus ensuring continuous stable feeding.
- ① It uses full-enclosed structure with advantages of easy operation, stable running, and no leakage.
- ① It has a special design with advantages of long service life, low fault rate, easy maintenance, simple arrangement and installation, small occupation and easy maintenance.
- ① It adopts sensible, stable and low interfering blade design and axis adjustment technology which ensures high-precision and anti-interference capability.
- ① Functions such as automatic measurement, quantitative feeding, automatic correction, fault alarm, instantaneous flow rate and display of cumulative amount will be realized by PLC control.
- ① It has improved signal transmission and good communication functions which can meet the requirements of the automatic control of the large and medium-sized modern cement plant, with high automation level and strong functions.

技术指标 Technical indexes

- | | |
|---|--|
| ① 计量精度: $\leq \pm 0.5\%$ | ① Measuring accuracy: $\leq \pm 0.5\%$ |
| ① 控制精度: $\leq \pm 1.0\%$ | ① Control accuracy: $\leq \pm 1.0\%$ |
| ① 喂料能力: $30\text{m}^3/\text{h} \sim 800\text{m}^3/\text{h}$ | ① Capacity of feeding: $30\text{m}^3/\text{h} \sim 800\text{m}^3/\text{h}$ |
| ① 物料水份: $\leq 2.5\%$ | ① Material moisture: $\leq 2.5\%$ |
| ① 物料形态: 干粉状物料 (最大粒径 $\leq 5\text{mm}$) | ① Material shape: dry powdery material (Max. particle size $\leq 5\text{mm}$) |
| ① 调速方式: 变频调速 | ① Mode of speed regulation: frequency control |
| ① 调速范围: 1: 10 | ① Range of speed regulation: 1: 10 |

PWF/F FLY ASH FEEDING CONTROL SYSTEM

PWF/F 粉煤灰喂料控制系统

○ 概 述 Introduction

PWF/F 粉煤灰喂料控制系统是合肥水泥研究设计院固泰自动化有限公司(原合肥金山科技实业公司)在几十年的计量技术研究和应用经验基础上,针对粉煤灰的特性,经过多年自主研发后,最新开发的新型粉煤灰计量喂料控制系统。该系统继承了PWF轮辐转子粉体计量装置的计量精度高、使用寿命长、维护简单等特点,采用具有自主知识产权的MPF多层粉体喂料机进行预给料,有效抑制了粉煤灰流动性好带来的串料问题,克服了仓压对计量的影响,给料均匀、稳定。

该系统尤其适用于水泥、建材行业粉煤灰、矿渣粉等易流型物料的计量与定量给料。

PWF/F fly ash feeding control system is the latest product developed by Hefei Goodtimes Automation Co., Ltd under Hefei Cement Research and Design Institute as for the characteristics of fly ash and based on decades of practical experiences of measuring technical research & application. This system inherits many characteristics of PWF spoke rotor powder metering device, such as high measurement accuracy, long service time and convenient maintenance. With independent intellectual property rights of the MPF multilayer powder feeder, it effectively avoids the unstable feeding caused by good fluidity of fly ash and overcomes bin pressure influence on measurement, with uniform and stable feeding.

It is especially suitable for material metering and constant feeding in overflow materials such as fly ash, slag powder of cement industry and building materials industry.



○ 规格与性能参数表 Specification

规格型号 Specifications and type	喂料能力(m ³ /h) Feeding capacity(m ³ /h)	MPF多层粉体喂料机型号 Model MPF multi-layer Powder Feeder	整机功率 (kW) Total power (kW)	整机重量(kg) Total weight (kg)
PWF/F-0720	1-10	MPF0620	4.1	2800
PWF/F-0720	2-20	MPF0820	5.1	3000
PWF/F-0920	3-30	MPF0830	7	3500
PWF/F-1125	6-60	MPF1030	9.5	4500
PWF/F-1325	10-100	MPF1135	11	5500
PWF/F-1525	15-150	MPF1335	15	7000



○ 特点简介 Characteristics

- ① 预给料机为MPF多层粉体喂料机，采用专门设计的多层式密封结构，保证物料连续输送，喂料均匀稳定，不会出现结拱、串料、漏料等现象。
- ① 直接测量轮辐转子内的物料质量，计量精度不受气流、物料特性的影响，喂料稳定，运行可靠。
- ① 采用预给料机加预期控制技术，技术先进，给料稳定，计量精度高，真正实现定量喂料。
- ① 独特的长寿命设计，使用寿命长，维护简单，成本低，易损件少。
- ① 结构简洁，全密封设计，操作简便，运行可靠，无泄漏。
- ① 具有完善的信号传输与通讯功能，自动化程度高，功能强，适应现代化大中型水泥厂的自动控制要求。
- ① 布置安装简单，占用空间小，便于维护。
- ① 具有远程诊断功能，及时提供技术支持。
- ① Pre-feeder is MPF multi-layer powder feeder with multi-layer sealing structure to make sure that the material conveying is continuous and the feeding is even and stable without arching, unstable feeding, leakage, etc.
- ① Material quality can be directly measured inside the rotor; measuring accuracy is unaffected by material property and air-flow with stable feeding and reliable running.
- ① It adopts pre-feeder plus expected control technology with advantages of advanced technique, stable feeding, and high measuring accuracy, thus really realizing constant feeding.
- ① It has a special design with advantages of long service life, easy maintenance, low cost and rare wearing parts.
- ① It is characterized with simple structure, full sealing design, easy operation, stable running, and no leakage.
- ① It has improved signal transmission and good communication functions which can meet the requirements of the automatic control of the large and medium-sized modern cement plant, with high automation level and strong functions.
- ① It has such advantages as easy installation, small occupation and easy maintenance
- ① It has remote diagnostic function and provides technical support promptly.

○ 技术指标 Technical indexes

- | | |
|--------------------------|---|
| ① 计量精度: $\leq \pm 0.5\%$ | ① Measuring accuracy: $\leq \pm 0.5\%$ |
| ① 控制精度: $\leq \pm 1.0\%$ | ① Control accuracy: $\leq \pm 0.5\%$ |
| ① 量程比: 1: 10 | ① Range ratio: 1: 10 |
| ① 调速方式: 变频调速 | ① Mode of speed regulation: frequency control |

TDG/C SEALING CONSTANT FEEDER

TDG/C密封型定量给料机

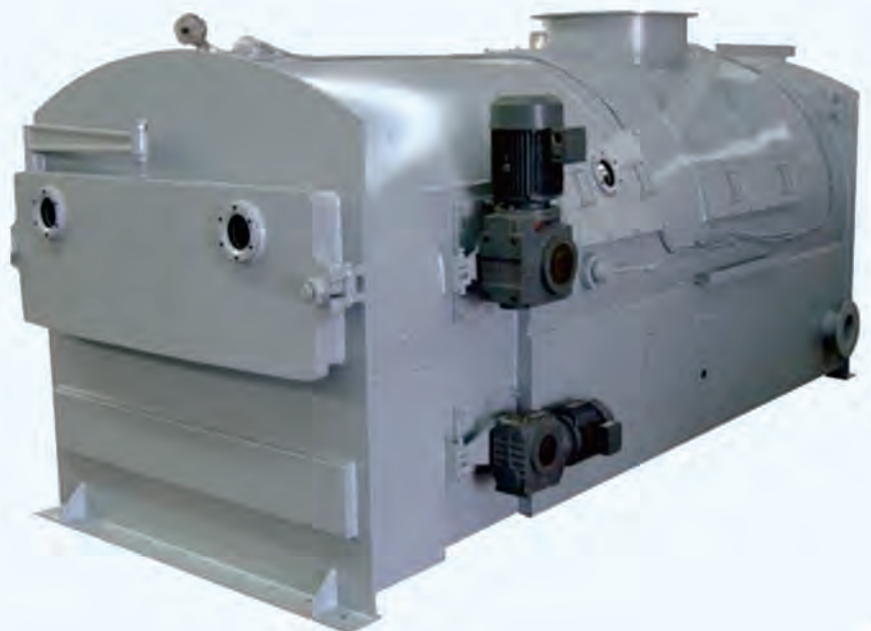
概述 Introduction

TDG/C密封型定量给料机是合肥水泥研究设计院固泰自动化有限公司(原合肥金山科技实业公司)在几十年的计量技术研究和应用经验基础上,采用先进的称重和机电一体化技术,最新开发的计量与配料装置。该设备为全密封结构,既保证给料准确度,又操作简便,安全可靠。密封式更加适用于粉料或易于扬尘场合,可以使被称重和输送的物料不外泄。独特的皮带张紧和自动纠偏功能,可以使秤体长期运行免维护。广泛用于建材、化工、冶金、电力、煤炭等各相关行业散状物料的计量输送。

TDG/C Sealing Constant Feeder is a new metering and proportioning equipment applying advanced metering and electromechanical integration technology, which is developed by Hefei Goodtimes Automation Co., Ltd under Hefei Cement Research and Design Institute based on decades of practical experiences of measuring technical research & application. This equipment applies completely sealed structure which not only can ensure the feeding accuracy and but also make the operation sample, safe and reliable. The sealed type structure is more suitable for powdery materials or dust generation place, and it can prevent the material leakage during weighing and conveying. The unique tensioning and automatic correction function of the belt make the equipment free from maintenance for long time. It is widely used for the metering and conveying bulk materials in building materials, chemical industry, metallurgy, electric power, coal, and other related industries.

技术指标 Technical indexes

- ① 计量精度: $\leq \pm 0.5\%$
- ① 控制精度: $\leq \pm 1.0\%$
- ① 调节范围: 1: 10
- ① 环境温度: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- ① Environmental temperature: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- ① Adjustable range: 1: 10
- ① Control accuracy: $\leq \pm 1.0\%$
- ① Weighing accuracy: $\leq \pm 0.5\%$





特点简介 Characteristics

- 1 全封闭钢结构壳体，密封性好；检修门和观察窗设计，检修方便。
- 1 胶带为采用环形裙边胶带，防止了物料的撒落。
- 1 独特的皮带张紧和自动纠偏功能，可以使秤体长期运行免维护。
- 1 称重机构一般采用DEL型电子皮带秤结构，结构刚度好，计量精确。
- 1 落料清扫机为链条刮板式，装于输送机构的下面。其功能是清扫从输送机上落到机壳底部的物料，防止落料堆积，影响正常工作。
- 1 设有防胶带跑偏报警及断料、堵料报警等机构。
- 1 进料斗导料槽出口处设有整形闸门，可以方便调整给料量的大小并保证皮带上物料均匀分布，使称重精度达到最佳效果。
- 1 It has good tightness because of completely enclosed steel shell; the design of access door and observation window is convenient for maintenance.
- 1 It adopts waved edge belt which can prevent the material falling down
- 1 The unique tensioning and automatic correction function of the belt make the equipment free from maintenance for long time.
- 1 The weighing mechanism usually applies DEL-type electronic belt weigher structure. The structure hardness is good and the metering is accurate.
- 1 Chain scraper type blanking sweeper is installed below the conveyer. Its function is to clean materials which fall from the conveyor to the bottom of the shell and to prevent blanking stacking.
- 1 It is equipped with devices such as the belt drift alarm, no-load running alarm, stacking alarm, etc.
- 1 There is a gate at the outlet of hopper chute. It is convenient to adjust feeding and ensure the material uniformly distributed on the belt, which helps to realize the best weighing accuracy.

规格与性能参数表 Specification

规格型号 Specifications and type	皮带宽度 Belt width (mm)	主配用电机(kw) Main motor (kw)	清扫配用电(Kw) Sweeping motor (kw)	传感器 Sensor (kg)	给料量 Feeding capacity (t/h)	重量 Weight (kg)
		减速机 Reducer	减速机 Reducer			
TDG/C-650	650	TDV100L4 3.0kw	DT80N4 1.1 kw	Z6 50	0.5-30	4000
		KA77	KAF47			
TDG/C-800	800	TDV100L4 3.0kw	DT80N4 1.1 kw	Z6 50	1.0-60	4200
		KA77	KAF47			
TDG/C-1000	1000	TDV100L4 3.0kw	DT80N4 1.1 kw	Z6 100	2.0-80	4300
		KA77	KAF47			
TDG/C-1200	1200	TDV100L4 3.0kw	DT80N4 1.1 kw	Z6 100	5.0-100	4400
		KA77	KAF47			
TDG/C-1400	1400	TDV100L4 3.0kw	TDV100L4 3.0kw	Z6 100-200	10-120	5500
		KA77	KAF47			



CWF/Y/R ROTOR CONSTANT COAL FEEDING SYSTEM

CWF/Y/R分格转子定量喂煤系统

概述 Introduction

CWF/Y/R分格转子定量喂煤系统是合肥水泥研究设计院固泰自动化有限公司(原合肥金山科技实业公司)在几十年的计量技术研究和应用经验基础上,经过多年自主研发后,最新开发的分格转子定量喂煤装置。该装置继承了合肥院自动化所在水泥生产计量与定量給料领域的技术和经验,把传统的煤粉定量喂煤、计量和锁风功能集成到一台装置中,专用于采用气力输送煤粉的定量喂煤。该系统噪音小、结构紧凑、维护方便,系统的主要技术指标达到国际同类系统的先进水平。尤其适用于水泥、建材、冶金、电力等工业窑炉的煤粉定量喂煤。该装置荣获2011年中国建筑材料集团有限公司技术革新一等奖和2011年度“华新杯”全国建材行业技术革新奖技术开发类二等奖。

CWF/Y/R rotor constant coal feeding system is the latest one independently developed by Hefei Goodtimes Automation Co.,Ltd under Hefei Cement Research and Design Institute based on decades of practical experiences of measuring technical research & application. The device inherits the technology and experiences in cement production measuring and constant feeding technology field of HCRDI Automation Department. It integrates the functions of traditional constant coal feeding, measurement and air-locking into one device. It's specially used for constant coal feeding by pneumatic conveying coal powder. The system has such advantages as low noise, compact structure and easy maintenance, and the main technical indexes of the system have reached the advanced level of international similar system. It is especially suitable for constant coal feeding of the industrial kiln for cement, building materials, metallurgical industry and power industry. The device won the first prize of 2011 China National Building Materials Group Corporation technical innovation award and the second prize in technical development of 2011 "Huaxin Cup" National Building Materials Industry Technology Innovation Award.



规格与性能参数表 Specification

规格型号 Specifications and type		喂料能力(t/h) Feeding capability (t/h)	功率(kW) Power (kW)	整机重量(kg) Total Weight (kg)
CWF-800/12	A型 Type A	0.3~3	3.0	3000
	B型 Type B	0.4~4		
	C型 Type C	0.5~5		
CWF-1000/12		0.6~6	4.0	4200
CWF-1000/16	A型 Type A	0.8~8	5.5	4400
	B型 Type B	1.0~10		
	C型 Type C	1.3~13		
CWF-1200/20	A型 Type A	1.6~16	7.5	5400
	B型 Type B	2.0~20		
	C型 Type C	2.4~24		
CWF-1400/30	A型 Type A	3.6~36	9.2	8800
	B型 Type B	4.2~42		



特点简介 Characteristics

直接测量转子内的煤粉重量，计量精度不受气流、物料特性的影响，计量稳定，运行可靠。

与送煤罗茨风机是一个整体，省去了螺旋泵等锁风装置。罗茨风机的压力变化不影响喂煤量和计量精度，有利于稳定窑的热工制度，延长窑砖的使用寿命，降低能耗，提高熟料质量。

采用重力下料结合压缩空气喷吹、负压消失技术，可有效地消除仓压的影响，防止冲料。空气喷吹装置可防止煤粉架桥、堵塞，使煤粉始终处于松散状态，保持一定密度。

实行了预期控制技术，将任何时刻的转子负荷及其所处角位移存储在控制系统中，在煤粉卸出前，已知转子的负荷。由系统的设定流量值和转子负荷计算出卸料时的角速度，控制变频调速电机的速率，实现定量喂煤。

转子、密封板、出料头采用特种合金，确保设备使用寿命。

把传统的煤粉定量喂料、计量和锁风功能集成到一台装置中，结构紧凑，占空间小，减少了基建投资。机械结构精致简单，维护方便，不需要专门工具和起重设备。

采用PLC控制，可实现自动计量，定量喂煤，自动校正，故障报警，瞬时流量和累计量显示等功能。大屏幕液晶触摸屏显示工艺流程和流量、荷重、速度、助流阀状态等全部过程参数，操作容易、调试简单，维护方便。

Directly measure coal weight inside the rotor: measuring accuracy is unaffected by airflow and material features so the measuring is stable and the system is reliable.

The device and the Roots fan we offered is a whole system which leaves out the air-lock device such as the screw pump. The Roots fan pressure variation will not influence the coal feeding amount and measuring accuracy, which is good to stabilize the kiln thermal regulation, lengthen refractory brick life, reduce energy consumption and improve clinker quality.

The device uses gravity feeding combining with compressed air blowing and negative pressure eliminating technology, which can effectively eliminate bin pressure influence and avoid material surge. The air blowing device can avoid coal powder bridging and blocking, which makes the coal power loose and maintain a constant density.

It takes expected control technology, namely rotor load and its angular displacement at anytime are put into the control system. We will have known the rotor load before coal powder discharging, so the discharging angular velocity will be calculated by using the system fixed flow and the load to control. Therefore the speed of frequency motor will be controlled to realize constant and stable feeding.

Special alloy is used for rotor, sealing plate and outlet to insure their service life.

It integrates the functions of traditional constant coal feeding, measurement and air-locking into one device. So the system has such advantages as compact structure and small space and lower construction investment. The mechanical structure is refinement and simple which is convenient for maintenance requiring no special tools or hoisting equipment.

Functions such as automatic measurement, constant coal feeding, automatic correction, fault alarm, instantaneous flow rate and display of cumulative amount will be realized by PLC control. The big screen LCD touch screen shows all the procedure parameters of process, flow rate, load, speed, and aid flow valve condition which has such advantages as easy operation, simple commissioning, and easy maintenance.

技术指标 Technical indexes

- | | |
|----------------|---|
| ① 计量精度：≤ ±0.5% | ① Measuring accuracy: ≤ ±0.5% |
| ① 控制精度：≤ ±1.0% | ① Control accuracy: ≤ ±1.0% |
| ① 量程比：1:10 | ① Range ratio: 1:10 |
| ① 调速方式：变频调速 | ① Speed control mode: frequency control |

SPF/C COAL POWDER QUANTITATIVE FEEDING CONTROL SYSTEM

SPF/C煤粉定量喂料控制系统

概述 Introduction

SPF/C 煤粉定量喂料控制系统是合肥水泥研究设计院研制的国内首台煤粉计量控制系统，经过多年来不断改进、完善，现已成熟。它广泛应用于国内外6000t/d以下熟料生产线及有色、冶金、钢铁、化工等煤粉计量与输送系统上，主要技术指标达到或超过国际先进水平。

SPF/C constant feed control system for kiln feed coal powder is the first weighing & controlling system of coal powder in China which is developed by Hefei Cement Research & Design Institute. During many years of continuous improvement and perfection, it is a mature equipment, widely used for below 6000t/d clinker production line at home and abroad, and for measuring & conveying system of coal powder in nonferrous metals, metallurgy, chemical industry, and steel industry, etc. Its main technical indexes reach or exceed the international advanced level.

特点简介 Characteristics

- ① 系统结构紧凑、密封性好，能有效地防止粉料涌流、结拱；
- ① 环状天平式转子秤作为计量装置，计量准确、运行可靠，气流、落料冲击力等外界影响因素不会引起秤体零点漂移；
- ① 调节灵敏、功能齐全、操作方便；
- ① 引入前馈加双环调节模式，系统响应速度快，运行稳定；
- ① 独特的专用锁风装置；
- ① 低速运转，磨损极小，经久耐用，长期使用精度高，稳定性好。
- ① The system can effectively prevent the powdery material from surging and arching with compact structure and good sealing;
- ① The ring balance rotor scale is a metering device with accurate measurement and reliable operation. Air flow, the blanking impact force and external influence factors will not cause the zero drift of the scale body.
- ① Sensitive adjustment, complete function, and convenient operation;
- ① Add feed-forward and dual loop regulation mode before introduction, the response speed of system is fast with stable operation.
- ① Unique air-locking device
- ① Low-speed operation, minimal wear, durable, long-term high accuracy and good stability

技术指标 Technical indexes

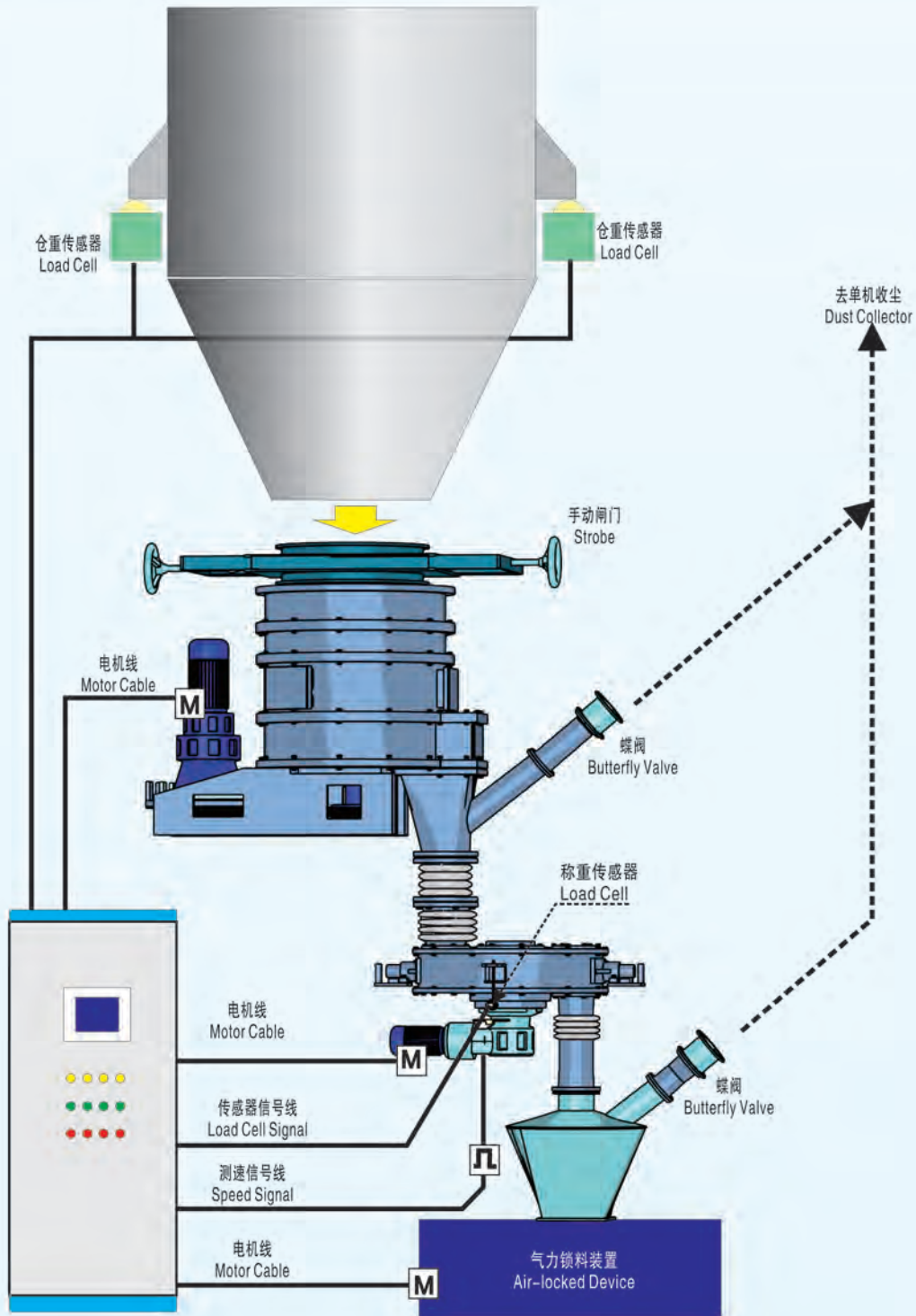
- | | |
|-----------------------------------|---|
| ① 计量精度: $\leq 0.5\%$ | ① Measuring accuracy: $\leq 0.5\%$ |
| ① 控制精度: $\leq 1.0\%$ | ① Controlling accuracy: $\leq 1.0\%$ |
| ① 给料能力: 1.0 ~ 70m ³ /h | ① Feeding capacity: 1.0 ~ 70m ³ /h |
| ① 调节范围1:10 | ① Adjustable range: 1:10 |
| ① 物料水分: $\leq 2\%$ | ① Material moisture: $\leq 2\%$ |
| ① 系统功耗: 10 ~ 25KW | ① Power consumption of system: 10 ~ 25KW |





SPF/C煤粉定量喂料控制系统组态

SPF/C Coal Powder Quantitative Feeding Control System





TQX SERIES MICRO POWDER QUANTITATIVE FEEDING SYSTEM

TQS系列微粉定量给料系统

概述 Introduction

TQS系列微粉定量给料系统是由合肥水泥研究设计院固泰自动化有限公司(原合肥金山科技实业公司)根据多年微量物料定量喂料(最大流量低于 $50\text{m}^3/\text{h}$)及粉状物料定量喂料的实践成果,并借鉴国外先进设备先进经验,推出的超小产量高精度粉体计量定量给料设备。该系统集锁料、计量、锁风为一体,广泛应用于建材、有色、冶金、钢铁、化工等行业。

TQS Series Powder Quantitative Feeding System is the latest product developed by Hefei Goodtimes Automation Co. Ltd under Hefei Cement Research & Design Institute based on the practical results of quantitative feeding of small amounts of materials (Max. flow below $50\text{m}^3/\text{h}$) and quantitative feeding of powdery material for many years, combined with the advanced experiences of imported foreign equipment. Therefore, with the integration of these performances as material aggregating and locking, measuring and air locking, the system is widely applied in building material, ferrous metal, metallurgy, iron and steel, chemical industries and etc.

特点简介 Characteristics

- ① 独特的密闭结构使仓内物料无法在微粉秤内部形成窜动,既保证了物料稳定又防止冲料,提高了系统的稳定性和计量精度。系统内部转动部分采用整体分页结构,因此单位送料结构较小,为了防止重量轻的物料不易下落,在下料处设有助流气系统,同时附有我公司独有的负压抽吸技术(发明专利: ZL 2012 2 0107141.X),保证系统气力输送的顺畅。
- ① 该系统使用进口PLC模块为主机系统,硬件模块配有多路开关量输入输出控制,多路模拟量输入输出,通过对多路信号输入进行智能判断,保证系统喂料的精确性和稳定性。
- ① 该系统操作界面采用彩色触摸屏,显示信息丰富,操作界面友好,系统提供多种工作方式可供用户选择。
- ① The unique airtight structure makes the material in the bin cannot play inside the micro powder scale, which ensures the material stability, avoids scouring, and enhances the system stability and metering accuracy. The rotating part in the system adopts integrated paging structure, so the unit feeding structure is relatively small. Flow assistor system is set at the material discharging point in order to avoid light material not easily falling down, meanwhile equipped with the exclusive negative pressure suction technology of our company (invention patent: ZL 2012 2 0107141.X), to ensure the smooth pneumatic conveying of the system.
- ① The system uses imported PLC module as host computer system. The hardware module is equipped with multi-way switch input and output control and multi-way analogue input and output. The intelligence judgment is made though multi-way signal input to ensure the accuracy and stability of system feeding.
- ① The operation interface for the system adopts colored touch screen, being friendly with rich information, providing various working ways for user selection.

技术指标 Technical indexes

- ① 细度: 0.08mm 筛余10%
- ① 温度: 常温
- ① 水分: 0.5% 以下³
- ① 能力: $\leq 50\text{m}^3/\text{h}$
- ① 精度: $\leq \pm 1\%$ (满量程)
- ① 电源: 380VAC/50Hz
- ① Fineness: 10% residue on 0.08mm sieve
- ① Temperature: normal temperature
- ① Moisture: below 0.5%³
- ① Capacity: $\leq 50\text{m}^3/\text{h}$
- ① Accuracy: $\leq \pm 1\%$ (full range)
- ① Power: 380VAC/50Hz





MODEL DLD/DLM IMPACT PLATE FLOWMETER

DLD/DLM冲板流量计

概述 Introduction

DLD/DLM冲板流量计适用于多种粉状物料精确计量和定量喂料，被广泛应用于建材、冶金、化工等行业，其安装方便，操作维护简单，故障率极低，获得用户一致好评。

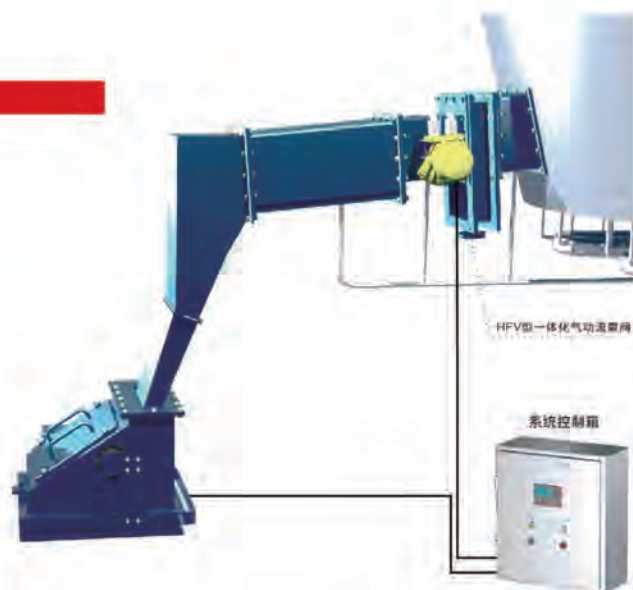
Model DLD/DLM Impact plate flowmeter is suitable for accurate weighing and constant feeding of various powdery materials, which is widely used in building material, metallurgy, chemical industry, etc. It gains unanimous praise from the users with its convenient installation, simple operation and maintenance and low failure rate.

特点简介 Characteristics

- ① 采用具有流态化充气装置的称重标定仓，可在线标定。
- ① 采用气动流量调节阀，调节速度快，流量稳定。
- ① 内部不锈钢溜槽设计，无旋转部件，不需维护，耐腐蚀，不沾料，长期稳定性好。
- ① It uses weighing calibration bin with fluidization inflation device and can be on-line calibrated.
- ① It adopts pneumatic flow control valve with fast regulating and stable flow.
- ① It adopts stainless chute design inside the device with no rotary parts, unnecessary maintenance, corrosion resistance, no material sticking and long-term stability.

技术指标 Technical indexes

- ① 计量精度：±1.0%
- ① 控制精度：±2.0%
- ① 给料能力：80~600m³/h
- ① 调节范围：1:10
- ① 环境温度：-30℃~60℃
- ① Ambient Temperature: -30℃~60℃
- ① Adjusting Range: 1:10
- ① Feeding Capability: 80~600m³/h
- ① Control Accuracy: ±2.0%
- ① Measuring accuracy: ±0.5%



TDG/SK BELT SPEED REGULATING CONSTANT FEEDER

TDG/SK皮带调速定量给料机

概述 Introduction

TDG/SK皮带调速定量给料机是在引进消化和吸收国外先进技术的基础上推出的拥有自主知识产权的最新一代定量给料机。该机采用当代国际称量技术领域的最新技术，广泛的应用于建材、冶金、化工等行业的颗粒状物料定量给料，主要技术指标达到国外同类产品先进水平。

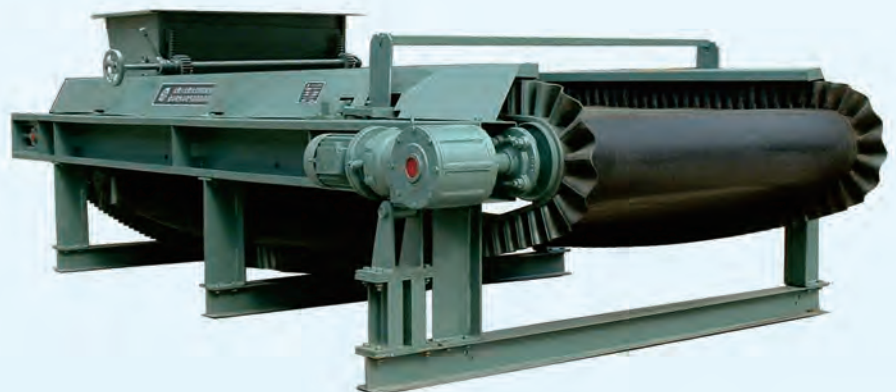
TDG/SK Belt speed regulating constant feeder is the latest generation of product with independent intellectual property rights which Jinshan Industrial Company of Science and Technology under Hefei Cement Research and Design Institute launches on the basis of the introduction and absorption of foreign advanced technology. It adopts the newest technology at the present age weighing technology. It is widely used for constant feeding of powdery materials in building material, metallurgy, and chemical industry. The main technical indexes reach the advanced level of similar foreign products.

特点简介 Characteristics

- ① 采用特殊成型整体式机械框架，稳定性好。
- ① 采用密封型外球面自动调心轴承，适应高粉尘恶劣环境。
- ① 采用进口高精度金属密封称重传感器，测量精度高。
- ① 提供多种不同的电控系统（仪表）供用户选择。
- ① It adopts a special molding integral mechanical framework with good stability.
- ① It adopts sealed spherical self-aligning bearing, which is suitable for bad environment with high dust.
- ① It adopts imported metal sealed load cell with high measuring accuracy.
- ① It has various electric control systems (instruments) for different users to choose.

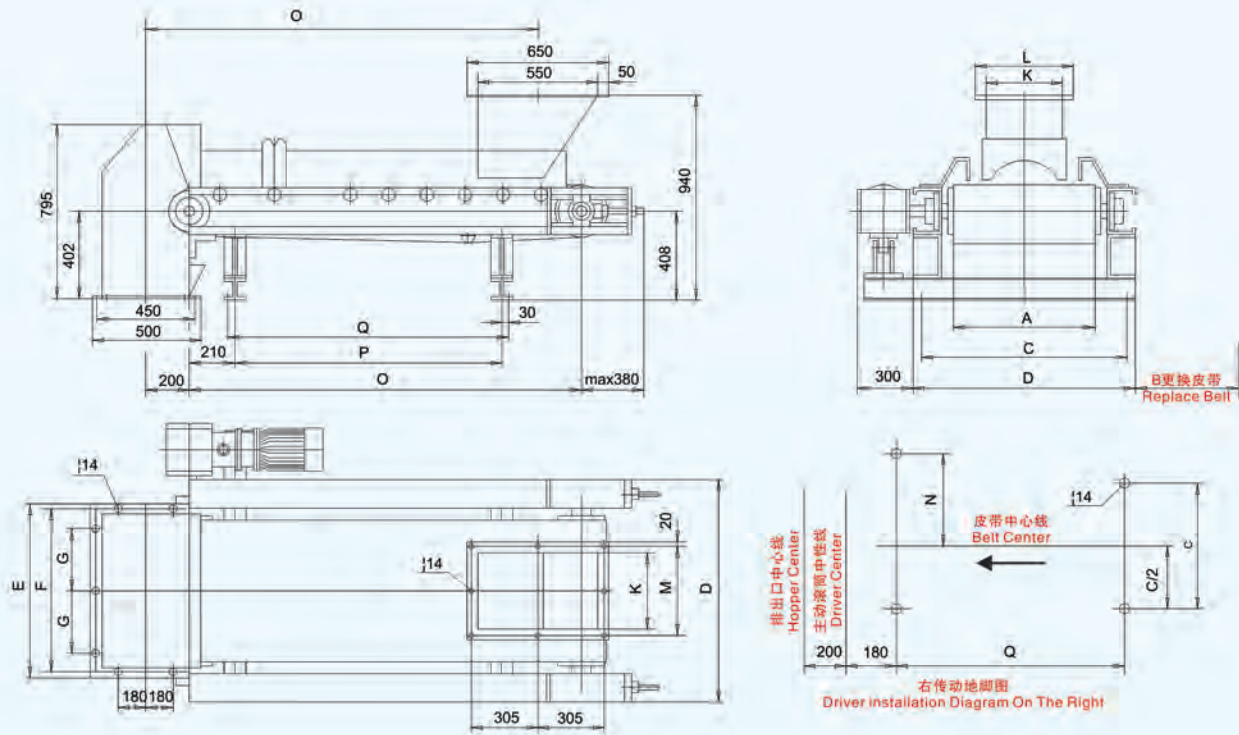
技术指标 Technical indexes

- ① 动态累计误差： $\leq 0.5\%$
- ① 给料能力： $0.5\text{t/h} \sim 500\text{t/h}$
- ① 使用环境温度： $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- ① 相对湿度： $\leq 85\%$
- ① 功率： $\leq 2.2\text{kW}$
- ① Accuracy： $\leq 0.5\%$
- ① Capacity： $0.5\text{t/h} \sim 500\text{t/h}$
- ① Environmental temperature： $-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- ① Relative humidity： $\leq 85\%$
- ① Power： $\leq 2.2\text{kW}$





○ 外形尺寸 Dimension



规格型号 Type	安装尺寸 Installation Size													
	A	O	P	Q	B	C	D	E	F	G	K	L	M	N
TDG/SK-650	650	1800	1225	1285	850	960	1020	800	750	330	330	450	2x205	705
		2000	1425	1485										
		2500	1925	1085										
TDG/SK-800	800	1800	1225	1285	1000	1110	1170	950	900	405	500	600	4x140	780
		2000	1425	1485										
		2500	1925	1985										
TDG/SK-1000	1000	1800	1225	1285	1200	1310	1370	1150	1100	505	700	800	4x190	880
		2000	1425	1485										
		2500	1925	1985										
TDG/SK-1200	1200	2000	1425	1485	1400	1510	15770	1350	1300	605	900	1000	4x240	980
		2500	1925	1985										
		3000	2425	2485										
TDG/SK-1400	1400	2500	1925	1985	1600	1710	1770	1550	1500	705	950	1050	4x250	1080
		3000	2425	2485										
		3500	2925	2985										

MODEL PQS/D POWDER CONSTANT FEEDING CONTROL SYSTEM

PQS/D 粉体定量喂料控制系统

概述 Introduction

PQS/D 粉体定量喂料控制系统是我公司在总结多年对粉体计量输送装置的研发经验并参照同类产品优缺点的基础上，自主研发的大流量粉体计量系列产品之一。

该粉体计量装置完全密闭，无扬尘，适应各种复杂的工艺环境，完美地实现大流量下粉体物料的准确计量和定量喂料。

Model PQS/D powder constant feeding control system is one of mass flow powder metering products independently developed by our company based on our research experiences of powder weighing and conveying equipment and also on studying advantages and disadvantages of products of the same type.

The powder metering device is fully closed and without dust, adapting to various complex process environments and perfectly achieve accurate measurement and constant feeding of mass flow powdery material.

特点简介 Characteristics

- ① 新型回转给料机，强力锁料，隔阻仓压，防止冲料。
- ① 全密闭结构，高精度测力及测速机构。
- ① 系统通过宽范围的电机速度调节以适应不同的工艺状况，计量准确，喂料稳定。
- ① 多种电控系统组态供用户选择。
- ① It is the new rotary feeder which can powerfully lock materials, separate bin pressure, and prevent material surge.
- ① It is dynamometry and speed measurement with high precision, and with completely closed structure.
- ① The system adapts to different process conditions by wide range adjusting of motor speed, with accurate measurement and stable feeding.
- ① It has various electric control systems for different users to choose.

技术指标 Technical indexes

- ① 计量精度: $\leq 1.0\%$
- ① 控制精度: $\leq 1.0\%$
- ① 给料能力: $30 \sim 300\text{m}^3/\text{h}$
- ① 调节范围: 1:10
- ① 物料水分: $\leq 5\%$
- ① 系统功耗: 10~20kW
- ① Measuring accuracy: $\leq 1.0\%$
- ① Control accuracy: $\leq 1.0\%$
- ① Feeding capacity: $60 \sim 300\text{m}^3/\text{h}$
- ① Adjustable range: 1:10
- ① Material moisture: $\leq 5\%$
- ① System power: 10 ~ 20KW





MODEL SPF/W POWDER CONSTANT FEEDING CONTROL SYSTEM

SPF/W 粉体定量喂料控制系统

概述 Introduction

SPF/W 粉体定量喂料控制系统是我公司在总结多年对粉体计量输送装置的研发经验并参照同类产品优缺点的基础上，自主研发的大流量粉体计量系列产品之一。

该粉体计量装置完全密闭，无扬尘，适应各种复杂的工艺环境，完美地实现大流量下粉体物料的准确计量和定量喂料。

SPF/W powder constant feeding control system is one of mass flow powder metering products independently developed by our company based on our research experiences of powder weighing and conveying equipment and also on studying advantages and disadvantages of products of the same type.

The powder metering device is fully closed and without dust, adapting to various complex process environments and perfectly achieve accurate measurement and constant feeding of mass flow powdery material.

特点简介 Characteristics

- 新型回转给料机，强力锁料，隔阻仓压，防止冲料。
- 采用稳流箱。使物料保持良好的流动性。
- 全密闭的转子天平秤，计量准确，喂料稳定。
- 多种电控系统组态供用户选择。
- It is the new rotary feeder which can powerfully lock materials, separate bin pressure, and prevent material surge.
- It adopts steady-flow box which keeps good liquidity of the material.
- Full closed rotor balance scale with accurate measurement and stable feeding.
- It has various electric control systems for different users to choose.

技术指标 Technical indexes

- 计量精度: $\leq 1.0\%$
- 控制精度: $\leq 1.0\%$
- 给料能力: $30 \sim 300\text{m}^3/\text{h}$
- 调节范围: 1:10
- 物料水分: $\leq 5\%$
- 系统功耗: $10 \sim 20\text{kW}$
- Measuring accuracy: $\leq 1.0\%$
- Control accuracy: $\leq 1.0\%$
- Feeding capacity: $30 \sim 300\text{m}^3/\text{h}$
- Adjustable range: 1:10
- Material moisture: $\leq 5\%$
- System power: $10 \sim 20\text{KW}$





MODEL PWF/V SPOKE ROTOR POWDER CONSTANT FEEDING SYSTEM (WITH FLOW VALVE)

PWF/V轮辐转子粉体定量给料系统(+流量阀)

概述 Introduction

PWF/V轮辐转子粉体定量给料系统(+流量阀)是我公司在总结多年对粉体计量输送装置的研发经验并参照同类产品优缺点的基础上，自主研发的大流量粉体计量系列产品之一。

该粉体计量装置完全密闭，无扬尘，适应各种复杂的工艺环境，完美地实现大流量下粉体物料的准确计量和定量喂料。

PWF/V Spoke Rotor Powder Constant Feeding System (with Flow valve) is one of mass flow powder metering products independently developed by our company based on our research experiences of powder weighing and conveying equipment and also on studying advantages and disadvantages of products of the same type.

The powder metering device is fully closed and without dust, adapting to various complex process environments and perfectly achieve accurate measurement and constant feeding of mass flow powdery material.

特点简介 Characteristics

- ① 采用HFV一体气动流量阀，调节稳定。
- ① 采用稳流箱，使物料保持良好的流动性。
- ① 全密闭的转子天平秤，计量准确，喂料稳定。
- ① 多种电控系统组态供用户选择。
- ① It adopts HFV integrated pneumatic flow valve that regulates stably.
- ① It adopts steady-flow box which keeps good liquidity of material.
- ① Full closed rotor balance scale with accurate measurement and stable feeding
- ① It has various electric control systems for different users to choose.

技术指标 Technical indexes

- ① 计量精度: $\leq 1.0\%$
- ① 控制精度: $\leq 1.0\%$
- ① 给料能力: $30 \sim 300\text{m}^3/\text{h}$
- ① 调节范围: 1:10
- ① 物料水分: $\leq 5\%$
- ① 系统功耗: $10 \sim 20\text{KW}$
- ① Measuring accuracy: $\leq 1.0\%$
- ① Control accuracy: $\leq 1.0\%$
- ① Feeding capacity: $30 \sim 300\text{m}^3/\text{h}$
- ① Adjustable range: 1:10
- ① Material moisture: $\leq 5\%$
- ① System power: $10 \sim 20\text{KW}$





MODEL BMP LONG BELT SCALE

BMP长皮带秤

概述 Introduction

BMP长皮带秤是合肥水泥研究设计院金山科技实业公司在引进消化和吸收国外先进技术的基础上推出的拥有自主知识产权的高速计量系统。该机主要是安装于长输送皮带机上，在不影响其输送功能的同时，进行物料计量，被广泛地应用于建材、冶金、化工等行业，主要技术指标达到国外同类产品先进水平。

Model BMP long belt scale is the high speed metering system with independent intellectual property rights developed by Hefei Goodtimes Automation Co.,Ltd under Hefei Cement Research and Design Institute on the basis of the introduction and absorption of foreign advanced technology. The equipment is mainly installed on long belt conveyor, which measures materials without affecting transportation. It is widely used in building materials, metallurgy, chemical industries, etc. with its main technical indexes reaching the advanced level of similar foreign products.

特点简介 Characteristics

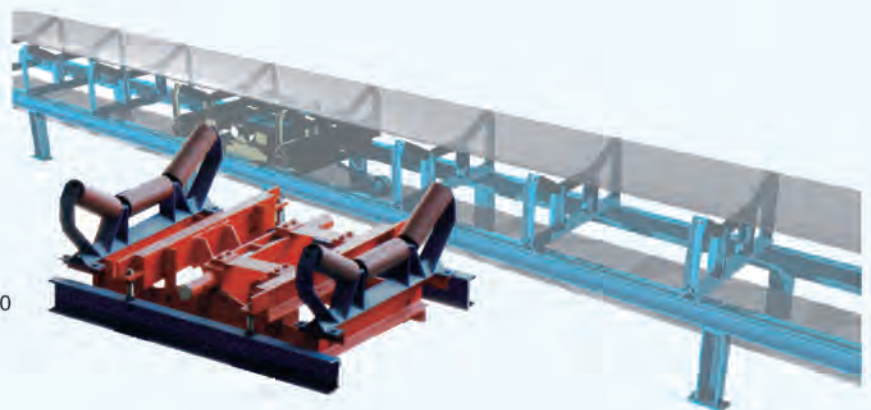
- ① 采用特殊成型整体式双簧片机械框架，稳定性好。
- ① 采用高速脉冲测速轮精确测量运输皮带线速度。
- ① 采用进口高精度金属密封荷重传感器，测量精度高，稳定性好。
- ① 随机电控系统具有多种不同形态可供不同的用户选择。
- ① 直接在原有运输皮带上改造，安装、维护方便。
- ① It adopts a special molding integral double reed machinery frame with good stability.
- ① It adopts high-speed pulse tachometer wheel which can accurately measure the line speed of transport belt.
- ① It adopts imported metal sealing load cell with high precision which is characterized by high measuring accuracy and good stability.

The electric control system with the equipment has various different forms for different users to choose.

Easily maintained, it can be directly modified and installed on the original transport belt .

技术指标 Technical indexes

- ① 计量精度: $\pm 0.5\%$
- ① 給料能力: $\leq 1500\text{t/h}$
- ① 适用皮带宽度: 650,800,1000,1200,1400
- ① 环境温度: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- ① 安装倾角: $\leq 14^{\circ}$
- ① Measuring accuracy: $\pm 0.5\%$
- ① Feeding capacity: $\leq 1500\text{t/h}$
- ① Applicable belt width: 650,800,1000,1200,1400
- ① Ambient temperature: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$
- ① Installation inclination: $\leq 14^{\circ}$



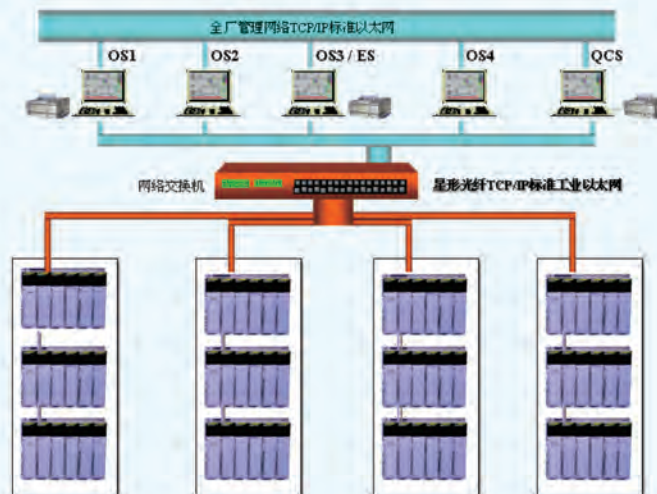
PCS DISTRIBUTED PROCESS CONTROL SYSTEM

PCS集散型过程控制系统

概述 Introduction

PCS集散型过程控制系统是合肥水泥研究设计院金山科技实业公司结合国际最新控制技术及产品，融合在水泥行业多年的控制技术经验积累，以高可靠性、低投入、高性能优化控制为目标，集成的可适用于不同规模、不同工艺的集散控制系统。

PCS Distributed Process Control System, applicable to production lines in different capacities and processes, are developed by Jinshan science & technology industrial company of Hefei Cement Research and Design Institute in combination of international latest control technologies and products, and experience buildup of it in cement industry control technology, with aims of high reliability, low input and high-performance optimized control.



特点简介 Characteristics

- ① 系统支持多种网络结构及协议，如工业以太网，PROFIBUS，MB+等，支持现场总线技术（如PROFIBUS，FF），具有良好的开放性和可扩展性，支持OPC、ODBC等开放数据接口，可方便地与各种管理系统连接
- ① 系统集成了水泥行业中的关键控制技术，如预热分解优化控制、磨机产质量控制，使得生产控制不再成为孤岛
- ① 为国外知名控制系统厂商的系统集成商（如ABB、SIEMENS、SCHNEIDER、ROCKWELL等），具有广泛的新系统即老系统改造业绩
- ① The system supports many types of network structure and protocols as industrial Ethernet, PROFIBUS, MB+ and etc; and field bus technology as PROFIBUS, FF; and open data interfaces like OPC, ODBC, with good compatibility and expandability, to be easily connected with all management systems.
- ① The system integrates key control technologies in cement industry, such as optimized control for preheating and calcining and quality control for mill output, so that process control should never be isolated.
- ① The company is OEM of renowned overseas control system manufactures as ABB, SIEMENS, SCHNEIDER, ROCKWELL and etc.), with remarkable achievements in upgrading of old and new systems.

QCS PROPORTIONING CONTROL SYSTEM

QCS 配料控制系统

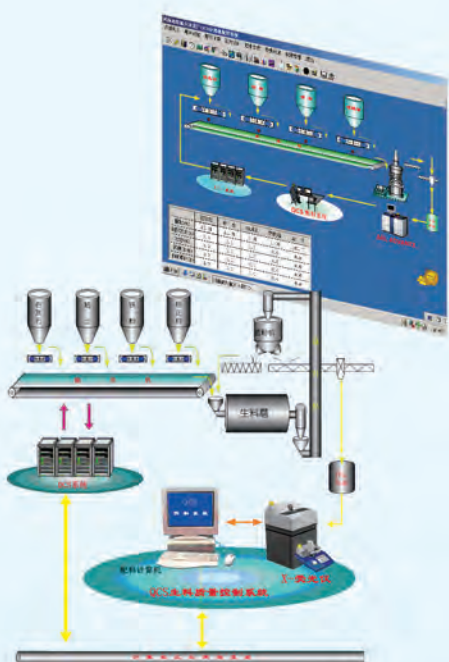
概述 Introduction

以低投入、优化控制、可靠性和实用性为目标，结合几十年来在水泥生料、熟料配料控制方面累积的经验，针对国内外不同规模、不同工艺水泥生产线开发的集检测技术、控制技术、计算机技术为一体的新一代质量优化控制系统。

The new-generation quality optimization control system, applicable to cement production lines in different capacities and processes home and abroad, is developed in combination of decades of experience in control for proportioning of cement raw materials and clinker, with an integration of detecting technology, control technology and computer technology and aims of low input, optimized control, reliability and practicability.

特点简介 Characteristics

- ① 三率值控制，优化的配料计算，控制效果达到领先水平
- ① 丰富的数据通讯接口，满足各种品牌的DCS系统通讯接口要求，使得QCS与DCS系统有效的融合为一体
- ① 强大丰富的软件功能，符合国内、国外操作习惯的中英文界面
- ① 与国际各著名X荧光分析仪厂家合作密切
- ① Control of 3 modules; optimized proportioning calculation; state-of-the-art control performance.
- ① Complete data communication interfaces to meet various interfacing requirements of DCS systems in all brands, so as to make QCS and DCS systems integrated sufficiently.
- ① Complete software functions; Chinese and English interfaces adaptable to domestic and foreign operation practices.
- ① Close cooperation relationship with famous international X-fluorescent analyzer manufacturers.



GMS ANALYSIS SYSTEM OF FLUE GAS COMPOSITIONS CEMS CONTINUOUS FLUE GAS DETECTING SYSTEM

GMS烟气成分分析系统 / CEMS连续烟气监测系统

○ 概 述 Introduction

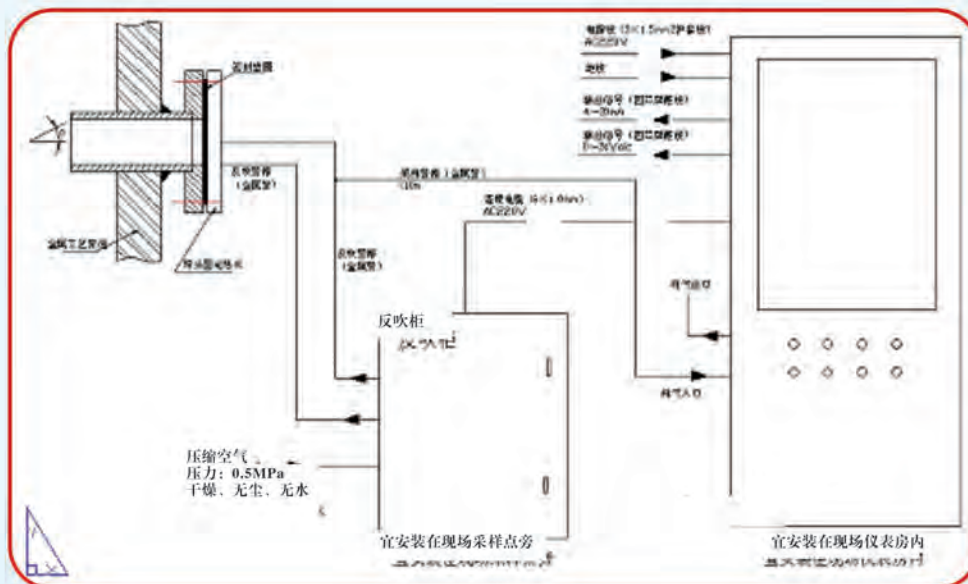
GMS烟气成分分析系统 / CEMS连续烟气监测系统为水泥厂在线分析专门设计研制的，相关部件具有国内领先水平，其中多孔旋喷式取样探头，双路冷却取样构架，三级过滤布置等构成的在线监测系统解决了在水泥厂高温高粉尘的工业条件下长期可靠运行的难题，在技术上具有创新性，并已取得现场的多次成功应用。

Gms Analysis System Of Flue Gas Compositions / Cems Continuous Flue Gas Detecting System are specially designed for on-line analysis in cement plants, with design of its relative parts reaching the advanced domestic level. The on-line monitoring system, comprised of multi-hole rotating jet sampling probe, dual-pass cooling sampling frame and tertiary filtering arrangement, etc, resolves the difficulty to realize long-term reliable operation under the industrial condition of high temperature and concentrated dust emission in cement plant. As an innovation in technology, the system has been successfully applied to many cement plants.



○ 技术指标 Technical indexes

- 测量范围: 0~3%(CO), 0~10%/0~25% (O₂)
- 模拟信号输出: 4~20mA(2路) 允许最大负载 750 Ω
- 报警输出接点容量: 220VAC 2A (4路无源接点)
- 系统测量响应时间: T₉₀≤60 s
- 取样点粉尘浓度: <350 g/m³
- 取样点压力: -7000 Pa ~ +500 Pa
- 样气温度: ≤400 °C
- 使用环境温度: -5°C~+45°C
- 供电电源: 220VAC(±10%) 50Hz(±2%) 1.5KVA
- 通讯接口: RS 485 / RS 232
- 系统过滤精度: <1.0 μm
- 防护等级: IP54
- Measuring range: 0~3% (CO), 0~10%/0~25% (O₂)
- Analog signal output: 4~20mA (2 lines) allowable Max. load 750 Ω
- Rating of alarm output at connection point: 220VAC 2A (4 circuits passive contacts)
- Reaction time of system measurement: T₉₀≤60 s
- Dust concentration at sampling point: <350 g/m³
- Pressure at sampling point: -7000 Pa ~ +500 Pa
- Temperature of sampled gas: ≤400 °C
- Ambient temperature: -5°C~+45°C
- Power supply: 220VAC(±10%) 50Hz(±2%) 1.5KVA
- Communication interface: RS 485 / RS 232
- Filtering accuracy of system: <1.0 μm
- Protection grade: IP54





HF SERIES OF KILN SHELL INFRARED SCANNING SYSTEM

专用监测控制装置

○ IKS窑胴体红外扫描系统

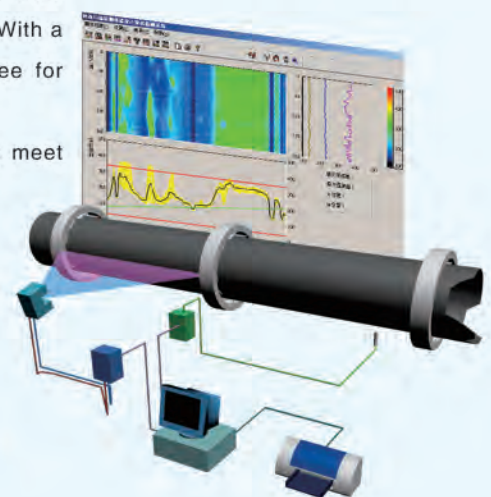
IKS Kiln Shell Infrared Scanning System

该系统是合肥水泥研究设计院固泰自动化有限公司经十几年来不懈努力，开发并完善的新一代窑胴体扫描设备，通过省级鉴定，获部级科技成果奖，中国建材机械行业名牌称号，具有扫描速度快、监测范围广(全窑)、同步准确等优点，同时还兼有完善的窑砖管理系统，是延长窑砖寿命的有效保障。

针对不同的用户，推出了HFSK型、HFGK-H型、HFGK-I型、HFGK-O型产品，以满足用户不同的需求。

The new generation of kiln shell scanning system, which has passed provincial evaluation and won science and technology achievement prize at ministerial level, Famous-Brand product of Chinese Building Material & Machinery Industry, is developed and improved through years of tireless efforts by Jinshan science & technology industrial company of Hefei Cement Research and Design Institute. It has many advantages as fast scanning speed, wide monitoring range (full kiln) and precise synchronized scanning with kiln rotation, etc. With a complete management system for kiln brick, it may work as an effective guarantee for extending service life of kiln brick.

There are different types of product, namely HFSK, HFGK-H and HFGK-O, to meet requirement of various clients.



○ ITV/K窑头高温电视系统 ITV/C篦冷机高温电视系统

ITV/K High Temperature Tv System Of Kiln Outlet ITV/C High Temperature Tv System Of Grate Cooler



采用新一代CCD摄像机、针孔探头，并带有不锈钢防护外壳（水冷、风冷）、气动回撤装置，该型工业电视具有景深大、防尘效果好、画面清晰、保护动作迅速、功能完善、可靠性极高、安装简单等特点。

Equipped with a new generation of CCD camera, pinhole probe, stainless steel protective casing (water-cooling & air-cooling) and pneumatic withdrawal device, it is featured by large depth of field, effective dust-proof, clear presentation, rapid protective reaction, complete function, super-high reliability, easy installation procedure, etc.



○ ITV/G通用工业电视系统

ITV/G General Industrial Tv System

HF-TV型闭路电视监控系统是用以实现生产质量监视、安全防范监控的有效方式，通过其外设遥控摄像机及其辅助设备，可有效地对工业厂区各个质量监测点和安全事故频发区或民用生活区的各个安全隐患点进行统一监测，并有效地汇集到多画面监视屏上，便于用户实现产品质量自动化管理和生产安全事故预防。

Model HF-TV closed-circuit TV monitoring system can effectively monitor production quality and preventive measures for safety. With the remote control cameras and the auxiliary parts outdoor, this system effectively monitors each quality monitoring area and each area where accidents frequently happen in the industrial plant and the potential hazard points in civilian area, and then displays what it monitors in a screen with multiple windows so as to enable the clients to automatically manage production and prevent accidents.



○ IPT/D比色高温计 & IPT/S单色高温计

IPT/D Color Pyrometer & IPT/S Monochromatic Pyrometer

高温计属非接触测量，量程为700~1800℃，精度为0.5%，其优点是测温准确度高，响应速度快，测量范围宽，可测目标小，测量温度更接近真实温度，环境的粉尘，水气，烟雾等对测量结果的影响小，可用于冶金、水泥、玻璃等工业部门。

Pyrometer belongs to non-contact measurement with 700~1800℃ range and 0.5% accuracy, which is characterized with high accuracy of thermometry, quick response, wide measuring range, and small measurable target. Its measuring temperature is closer to real temperature, with small impact on the measuring result by dust, vapor and smoke, which can be used in metallurgy, cement, glass and other industrial sectors.



ABB MNS SERIES SWITCH CABINET

ABB MNS系列开关柜

概述 Introduction

MNS系列开关柜是ABB公司授权合肥水泥研究设计院固泰自动化有限公司生产的一种组装式低压开关柜系统，柜体内可安装不同的标准元件，以满足各种使用要求。由于整个系统包括电气结构均采用了组合式的设计，这种优化的结构设计满足了各种元件的要求，并适用不同工作环境，达到相应的防护等级。

MNS series switch cabinet is a kind of assembled low-voltage switch cabinet system manufactured by Hefei Goodtimes Automation Co., Ltd under Hefei Cement Research and Design Institute with the authorization of ABB Company. Various standard components can be installed inside the cabinet to satisfy different operating requirements. Because the assembled design is adopted in the whole system including electric structure, this optimized structure design has satisfied the requirements of various components, available to different operating environment and has reached the corresponding protective grade.



特点简介 Characteristics

- ① 结构紧凑，节省柜体体积；
- ① 柜体能背靠背排列；
- ① 配电回路布置经济；
- ① 全部选用标准元件，方便工程设计人员设计；
- ① 全系列标准化；
- ① 柜体可按工作和环境的不同要求设计出相应的防护等级；
- ① 在一个柜体中可自由安装不同型式的功能组件；
- ① 设备更新改进方便；
- ① 设备运行连续性和可靠性高；
- ① 操作人员人身安全有保障。
- ① The system has a compacted structure which saves the volume of the cabinet.
- ① The cabinet can be arranged back-to-back.
- ① The distribution circuit is arranged in an economical way.
- ① The whole system uses standard components, which conveniences engineering designers.
- ① Standardization is applied to all MNS series.
- ① The corresponding protective grade can be designed for the cabinet according to different requirements of operation and environment.
- ① Functional units with different types can be freely installed in a cabinet.
- ① The equipment is convenient to update and improve.
- ① The equipment works continuously and reliably.
- ① The operators' personal safety is ensured.



AUTHORIZED DISTRIBUTOR AND SERVICE CENTER OF ABB DRIVE

ABB传动授权分销商及服务中心

概述 Introduction

ABB集团是全球电力和自动化领域的领导厂商，其交直流传动产品广泛应用于传送带、挤压机、提升机、风机、泵类负载。在水泥、电力、化工、石油等诸多领域都得到了客户普遍认可及好评。

合肥水泥研究设计院固泰自动化有限公司是北京ABB电气传动系统有限公司授权的重点传动产品分销商及传动产品技术服务中心和维修中心。“以技术支持为先导，以售后服务为重点”是我公司的经营服务理念，“提供完整的解决方案”和“服务零投诉”是我们的服务标准。公司有多名经ABB公司培训、授权的传动产品服务工程师，可为用户提供专家级的工程设计和指导安装调试以及快速的售后现场服务。

Hefei Goodtimes Automation Co., Ltd under Hefei Cement Research and Design Institute is the key drive product distributor and drive product technical service & maintenance center authorized by ABB Electrical Drive system Co. Ltd in Beijing. The concept of our business service is that “guided by technical support and focusing on after-sales service”, and our service standard is to “offer complete solution and to provide service without any complaint”. Our Service engineers of drive products, many of whom have received the training and authorization from ABB Company, can provide expert-level engineering design, installation & commissioning guidance and rapid after-sales site service.

特点简介 Characteristics

- ① 可靠性高；
- ① 能耗低；
- ① 电网侧谐波低；
- ① 更加经济、环保；
- ① 安装、调试及运行维护方便等。
- ① Low energy consumption
- ① High reliability
- ① Low side harmonic of electric network
- ① More economical and environmental
- ① Easy to install, commission and maintain, etc.



MODEL IDM/M MILL SOUND METER

IDM/M 磨音测量仪

概述 Introduction

IDM/M 磨音测量仪通过对磨机运行分贝值的检测来判断磨机内物料的填充率及研磨情况，从而优化磨机生产，可广泛应用于建材、冶金、化工等行业球磨机生产过程检测，有利于提高磨机产量，降低功耗，减轻工人劳动强度。

IDM/M mill sound meter is used for judging filling rate and grinding status of material in the mill by testing decibel value of mill operation, thus optimize mill production. It is widely used for test of ball mill during production in building material, metallurgy, chemical industry, etc., which is conducive to improve mill output, decrease power consumption and reduce labor intensity.



特点简介 Characteristics

- ① 采用先进可靠的外围电路，性能稳定可靠，测量精度高。
- ① 专用的探头保护装置，利于其在高粉尘、高湿环境下长期稳定工作。
- ① 高精度探头指向性好，不受临近磨机干扰。
- ① It adopts advanced and reliable peripheral circuit, which is characterized with stable and reliable performance and high measuring accuracy.
- ① It adopts special probe protective device which is better for long-term stable operation against high dust and high humidity environment.
- ① The directivity of high-precision probe is good, which is not troubled by neighboring mill.

技术指标 Technical indexes

- | | |
|--|--|
| ① 测量范围: 60 ~ 140dB | ① Measuring range: 60 ~ 140dB |
| ① 测量精度: ± 0.1 dB | ① Measuring accuracy: ± 0.1 dB |
| ① 频率范围: 20 ~ 20000Hz | ① Frequency range: 20 ~ 20000Hz |
| ① 环境温度: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ | ① Ambient temperature : $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ |
| ① 环境湿度: $\leq 85\%$ | ① Ambient humidity: $\leq 85\%$ |

IDM/C BIN WEIGHER

IDM/C仓重称重仪

概述 Introduction

IDM/C 仓重称重仪是仓内物料重量在线检测的仪表，在普通生产过程中起料位计的作用，指示仓内物料的多少，在有连续计量标定要求的场合，能用于系统在线校正仓，可实现对系统的在线标定作用。广泛应用于建材、冶金、化工等行业，其安装维护简便。

IDM/C bin weigher is the instrument for online test of material weight in the bin. It is used as level meter in the normal production process and indicates material quantity in the bin. In the cases requiring continuous measurement and calibration, it can be used in system online calibrating of the bin, and can achieve online calibration for the system. It is widely used in building material, metallurgy, chemical industry, etc., with simple and convenient installation and maintenance.

特点简介 Characteristics

- ① 采用先进可靠的数字处理技术，性能稳定可靠，测量精度高。
- ① 特殊软件技术，标定简单，易于操作。
- ① 采用专用称重模块，系统抗干扰能力强，不受偏载影响。
- ① It adopts advanced and reliable digital processing technology, with stable and reliable performance and high measuring accuracy.
- ① It adopts special weighing module, with strong anti-interference capability of system, and unaffected by unbalance load.
- ① It adopts special software technology, with simple calibration and easier operation.



传感器 Sensor
现场处理单元 Local processing unit
上限报警 Upper limit of alarm
下限报警 Low limit of alarm
4~20mA重量信号 4~20mA weight signal
上位机 Upper computer

技术指标 Technical indexes

- | | |
|--|---|
| ① 计量精度: $\pm 0.1\%$ | ① Measuring accuracy: $\pm 0.1\%$ |
| ① 称重范围: 0.5t ~ 300t | ① Weighing range: 0.5t ~ 300t |
| ① 环境温度: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$ | ① Ambient temperature: $-30^{\circ}\text{C} \sim 60^{\circ}\text{C}$ |
| ① 输出信号: 标准4~20mA | ① Output signal: Standard 4~20mA |
| ① 无源触点(1A) | ① Passive contactor (1A) |
| ① 环境温度: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ | ① Ambient temperature: $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$ |
| ① 环境湿度: $\leq 85\%$ | ① Ambient humidity: $\leq 85\%$ |
| ① 电源: +24V/1A | ① Power supply: +24V/1A |

MODEL HFV INTEGRATED FLOW CONTROL VALVE

HFV型一体化流量调节阀

概述 Introduction

HFV型一体化流量调节阀是由阀体和三位置定位器组成，它具有快速截止，流量调节的一体化功能。它可作为流态化粉状物料的调节装置，定位快速准确，并可进行连续调节，与计量控制系统配合时，可进行流量的调节控制，是非常理想的卸料阀门。

Model HFV integrated flow control valve consists of valve body and three-position locator, with the function integrating rapid cut-off and flow control. It can be used as regulating device for fluidized powder materials, locating fast and accurate and can be adjusted continuously. When working with weighing control system, it can control the flow. Therefore it is an ideal discharge valve.



组成及工作原理 Structure and working principle

流量调节阀主要由两个基本部分组成：阀体、三位置定位器，其中三位置定位器是由旋转气缸、两个电磁阀和智能定位器组成，所有组件均为原装进口，其配置等同于原装进口德国CP或IBAU公司相关产品。

工作原理：智能定位器通过接收外部4~20mA电流信号来改变电磁阀的相应位置，从而控制进入到旋转气缸气流量的大小，进而控制阀的开度，最终达到调节流量的目的。

Flow control valve has two main parts: valve body and three-position locator which consists of one rotary cylinder, two solenoid valves and an intelligent locator. All the components are imported. Therefore the flow control valve is equivalent to imported products from German CP Company or IBAU Company in respect of configuration.

Working principle:

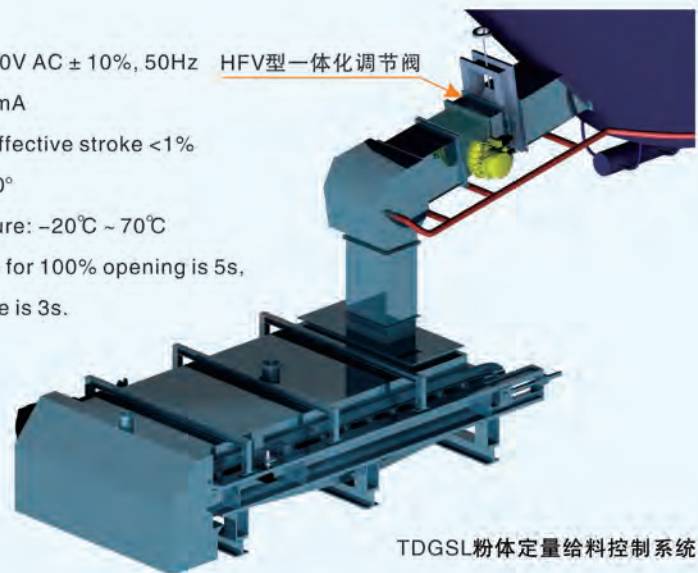
By receiving 4~20mA exterior current signal, intelligent locator adjusts the position of solenoid valves to control the air flow which enters into rotary cylinder, thus it controls the opening of the valve and consequently controls the flow.

特点简介 Characteristics

- ① 旋转气缸的特点是没有曲柄或齿轮，叶片和轴为整体式，能直接传递扭矩；旋转气缸无需维护，无调节死区，经久耐用，动作次数确保四百万次以上，是理想的旋转气动驱动部件
- ① 阀体是由装有滚筒的钢质壳体构成的，四周有耐磨密封材料且更换方便
- ① The features of rotary cylinder are that it has no crank or gear, and the vane and bearing are integrated, which can directly pass torque. With no control dead area, rotary cylinder needs no maintenance and has a long service life. The guaranteed movements are above 4 million times. It is an ideal rotary pneumatic drive parts.
- ① The valve body is made up of steel shell with drum and there is wear resistant airproof material around it. It is convenient to replace the parts.

技术指标 Technical indexes

- | | |
|-----------------------------------|--|
| ① 输入气源:4~7bar | ① Input air: 4~7bar |
| ① 供电电压:220V AC \pm 10%, 50Hz | ① Voltage supply: 220V AC \pm 10%, 50Hz |
| ① 输入信号:4~20mA | ① Input signal: 4~20mA |
| ① 线性精度:<1%的有效行程 | ① Linear accuracy: effective stroke <1% |
| ① 输出转角:0~90° | ① Output angle: 0~90° |
| ① 工作温度:-20℃~70℃ | ① Working temperature: -20℃~70℃ |
| ① 行程时间:100%开度时间为5s,
快速关闭时间小于3s | ① Stroking time: time for 100% opening is 5s,
Time for rapid close is 3s. |



TDGSL粉体定量给料控制系统

应用示例 Application

HFV型一体化流量调节阀可广泛应用于建筑、矿山、化工等行业的粉状物料的均化和控制。

在水泥行业，该产品已广泛应用于均化库底控制、入窑生料控制、粉煤灰控制等，并取得了很好的应用效果。

Model HFV integrated flow control valve is widely applied to the homogenization and control of powder materials in constructing, mining and chemical industries.

In cement industry, it is widely applied to control the flow at homogenization silo bottom, the flow of kiln feed and fly ash. The performance is proved excellent.



STEEL CABLE BELT BUCKET ELEVATOR

N-TGD 钢丝胶带斗式提升机

概述 Introduction

波特兰钢丝胶带斗式提升机先后荣获2005年度建材行业科技进步一等奖,2006年度中国建材集团科技进步一等奖,2007年度国家科技进步二等奖。2012年5月,波特兰钢丝胶带斗式提升机在徐州中联万吨线投入使用,标志着波特兰钢丝胶带斗式提升机已进入水泥工业最高端市场。并已销往34个国家和地区。

钢丝胶带斗式提升机具有自主知识产权,拥有多项专利,其主要技术指标达到世界先进水平。迄今已投入运行3400余台套。

N-TGD steel wire belt bucket elevator was awarded the first prize of China Building Material Industry for Progress in Science and Technology in 2005, first prize of China Building Material Group for Progress in science and Technology in 2006 and second prize of National Prize for Progress in Science and Technology in 2007. N-TGD steel wire belt bucket elevator has been applied in CUCC Xuzhou 10000t/d cement production line, which marked N-TGD entering into the worldwide high-end market in cement industry. The N-TGD has been sold to 34 countries and regions.

N-TGD steel wire belt bucket elevator with independent intellectual property rights and several patents, the main performances of which has attained to advanced world levels. 3400sets of N-TGD are running in world wide cement plant.



特点简介 Characteristics

- ① 胶带接头采用特种合金带夹和专用胶锁固技术
- ① 四连杆机构实现胶带自动张紧和自动纠偏
- ① 头轮采用覆胶瓦片式结构,更换方便
- ① 提升高度超过144.6米,输送能力超过1335m³/h
- ① Special alloy belt clamp & belt ends connecting technique.
- ① Parallel take-up station, better performance for belt automatic tensoning and skew correcting.
- ① The head pulley with rubber covered segments, easy to replacing.
- ① N-TGD lifting high over 144.6m, convey capacity over 1335m³/h

规格与性能参数表 Specification

斗宽 Bucket width (mm)	315	400	500	630	800	800H	1000	1250	1400	1600
料斗容积① Bucket volume(L)	6.5	14.6	18	29	37	46.4	58	73	99	114
输送量② Capacity (m ³ /h)	Φ=100%	117	225	280	450	570	797	997	1255	1547
	Φ=75%	88	168	210	338	428	597	797	941	1160
提升高度③ Lifting height(m)	>100	>100	>120	>120	>120	>150	>150	>150	>150	>150

说明:①料斗容积为盛水容积;②Φ为物料填充率;③提升高度指提升机轴间距。

Notes:①Bucket volume is the water filling volume;②Φ is filling rate;③Lifting height refers to height of elevator.

PULVERIZED COAL DOSING SYSTEM

KXT(M)科氏力秤煤粉计量系统

概述 Introduction

KXT(M)科氏力秤煤粉计量系统用于水泥、氧化铝、钢铁、电力等行业的窑炉喂煤计量系统，已实现35t/h煤粉在线计量。

该计量与控制系统的研制成功，填补了国内空白，完全可替代同类进口装备。其主要技术经济指标达到国外同类设备先进水平。该产品已在国外水泥生产线上正常运行超过十年，标志着我国煤粉计量设备走向国际市场。目前已用于水泥生产线脱氮(脱硝)工程。

《KXT科氏力秤煤粉计量系统与控制系统研究与应用》先后荣获2006年度建材行业科技进步一等奖、2007年度国家科技进步二等奖。

目前，已有560余台套KXT科氏力秤煤粉计量系统配套1000~5000t/d水泥生产线，其中，50余台套KXT系统出口越南、缅甸、巴基斯坦、格鲁吉亚等国。

The KXT(M) Coriolis pulverized coal dosing system is suitable for cement industry, alumina industry, steel & iron industry, thermal power plant etc, which has achieved 35t/h pulverized coal dosing.

The achievement fills the gaps of related technology and equipment in China, and is substituted for imported products. The main technical and economic features of the system have attained to advanced world levels. The system have been operating in foreign cement production line without any accidents, which indicated that the system gets into the international market. The KXT(M) has been applied in denitration process in cement production line.

"the Research and Application of KXT Coriolis pulverized coal dosing and control system " was awarded the first prize of China Building Material Industry for Progress in Science and Technology in 2006 and second prize of National Prize for Progress in Science and Technology in 2007.

560 sets of KXT system has been applied to 1000~5000t/d cement production line and 50 sets have been exported to Vietnam, Myanmar, Pakistan, Georgia, etc.

技术指标 Technical Indexes

- | | |
|------------------|--------------------------------------|
| ① 计量物料：烟煤或无烟煤粉 | ① Material: Bituminous or anthracite |
| ① 计量准确度：±0.5% | ① Measuring accuracy:±0.5% |
| ① 控制准确度：±1.0% | ① Control accuracy: ±1.0% |
| ① 量程范围：0.6~35t/h | ① Measuring range: 0.6~35t/h |
| ① 物料水分：≤2.0% | ① Moisture of materials: ≤2.0% |



规格与性能参数表 Specification

规格型号 Type	KXT(M)-0	KXT(M)-I	KXT(M)-II	KXT(M)-III	KXT(M)-IV	KXT(M)-V
量程 Range (t/h)	0.6~6	0.8~8	1~10	1.5~15	2.2~22	3.5~35

RAW MEAL DOSING SYSTEM/MASS FLOW DOSING SYSTEM

KXT(S) 科氏力秤生料计量系统/大流量粉体物料计量系统

概述 Introduction

“大流量粉体物料在线计量技术与装备研究”项目，于2013年1月12日通过中国建材联合会组织的专家鉴定。科氏力秤生料计量系统已实现万吨线配套，广泛用于祁连山、金隅集团、中联水泥等5000t/d生产线，是替代冲板流量计的最佳方案。已有130多台在线运行。

"Mass Flow Material Measuring Technology and Equipment Research" has passed the certification by China Building Material Federation on Jan.12 2013. The Coriolis raw meal dosing system has been applied in 5000t/d & 10000t/d cement production line such as Qilianshan, BBMG and CUCC etc, which is the best choice to replace impact flow meter. More than 130 sets KXT(S) raw meal dosing system has been put into production.

技术指标 Technical Indexes

- ① 计量准确度: $\pm 0.5\%$
- ① 控制准确度: $\pm 1.0\%$
- ① 量程范围: $1.0\sim 1000\text{m}^3/\text{h}$
- ① 物料水分: $\leq 2.0\%$
- ① 物料细度: $\leq 5\text{mm}$
- ① Measuring accuracy: $\pm 0.5\%$
- ① Control accuracy: $\pm 1.0\%$
- ① Measuring range: $1.0\sim 1000\text{m}^3/\text{h}$
- ① Moisture of materials: $\leq 2.0\%$
- ① Fineness of materials: $\leq 5\text{mm}$



规格与性能参数表 Specification

规格型号 Type	KXT(S)-I	KXT(S)-II	KXT(S)-III	KXT(S)-IV	KXT(S)-V	KXT(S)-VI	KXT(S)-VII	KXT(S)-VIII
量程 Range (t/h)	10-100	20-200	30-300	40-400	50-500	60-600	70-700	80-800
适用物料 Material	水泥生料、成品水泥及其他粉粒状物料 Raw meal, cement and other powdery materials							



KXT(F) FLY ASH (SLAG, CARBIDE) DOSING SYSTEM

KXT(F) 科氏力秤粉煤灰(矿渣)计量系统

概述 Introduction

该技术荣获2012年度建材行业科技进步一等奖,科氏力秤粉煤灰计量系统是综合利用工业渣粉,促进清洁生产的优选设备。

目前已完成数十台不同方案计量系统改造。改造效果明显,每套粉煤灰计量系统为企业增加效益130万元/年以上。

The KXT(F) fly ash (slag, carbide) dosing system was awarded the first prize of China Building Material Industry for Progress in Science and Technology in 2012.

Up to now, dozens of different type dosing system have reformed to KXT(F) system. Each set KXT(F) can increase benefit 1,300,000 Yuan/year for cement company.

技术指标 Technical Indexes

- | | |
|---------------------------------------|--|
| ① 计量物料: 粉煤灰、矿渣、电石渣 | ① Material: fly ash, slag, carbide |
| ① 计量准确度: $\pm 0.5\%$ | ① Measuring accuracy: $\pm 0.5\%$ |
| ① 控制准确度: $\pm 1.0\%$ | ① Control accuracy: $\pm 1.0\%$ |
| ① 量程范围: $\sim 400\text{m}^3/\text{h}$ | ① Measuring range: $\sim 400\text{m}^3/\text{h}$ |
| ① 物料水分: $\leq 2.0\%$ | ① Moisture of materials: $\leq 2.0\%$ |



规格与性能参数表 Specification

规格型号 Type	KXT(F)-I	KXT(F)-II	KXT(F)-III	KXT(F)-IV	KXT(F)-V	KXT(F)-VI	KXT(F)-VII	KXT(F)-VIII
量程 Range (t/h)	0.6~6	1.5~15	3.0~30	5.0~50	7.0~70	10~100	15~150	20~200
适用物料 Material	粉煤灰、矿渣粉、电石渣粉、钢渣粉、磷渣粉、窑灰、火山灰等分离状物料 powdery material like fly ah, slage, calcium carbide, steel slag, phosphorus slag, kiln dust, volcano dust etc.							

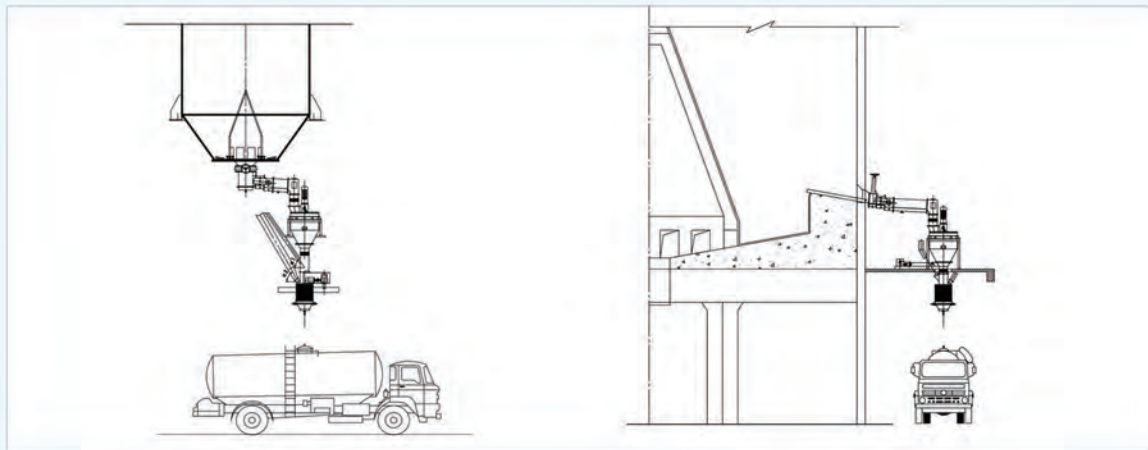
KXT(SZ) BULK CEMENT DOSING SYSTEM

KXT(SZ) 水泥散装计量与控制系统

概述 Introduction

KXT(SZ)水泥散装计量与控制系统，在国内首次实现水泥散装和计量一体化。

The KXT(SZ) bulk cement dosing system realized the integration of cement bulk loading and weighting firstly in China.



方案一

方案二

特点简介 Characteristics

- ① 以单车满载为目标，准确计量水泥装车量；
- ① 以单车定量装载为目标，按设定量精确控制水泥装车量；
- ① 实现上下限报警、断电长期数据保存；
- ① 计量数据上传与即时打印；
- ① 计量准确度： $\pm 0.5\%$ ；
- ① 适用物料：水分 $\leq 5\%$ 、粒径 $\leq 5\text{mm}$ 的粉粒状物料；
- ① 称量范围：1.0 ~ 800m³/h。
- ① For the target of fully load, accurately measuring bulk cement loading weight.
- ① For the target of fixed weight load, accurately measuring bulk cement loading weight as setting weight.
- ① Upper and lower limit alarm, data long time save without power.
- ① Measuring data upload and instant print.
- ① Measuring accuracy: $\pm 0.5\%$
- ① Material: powdery materia moisture $\leq 5\%$, finess $\leq 5\text{mm}$
- ① Measuring range: 1.0 ~ 800m³/h





HL COMPOSITE MIXER

HL组合式连续混料机与粉料调配系统

概述 Introduction

“组合式连续混料机”采用独特设计理念，结构新颖，在同等产能和混料效果条件下，本产品能耗仅为卧式混料机的20%~30%，节电70%以上。

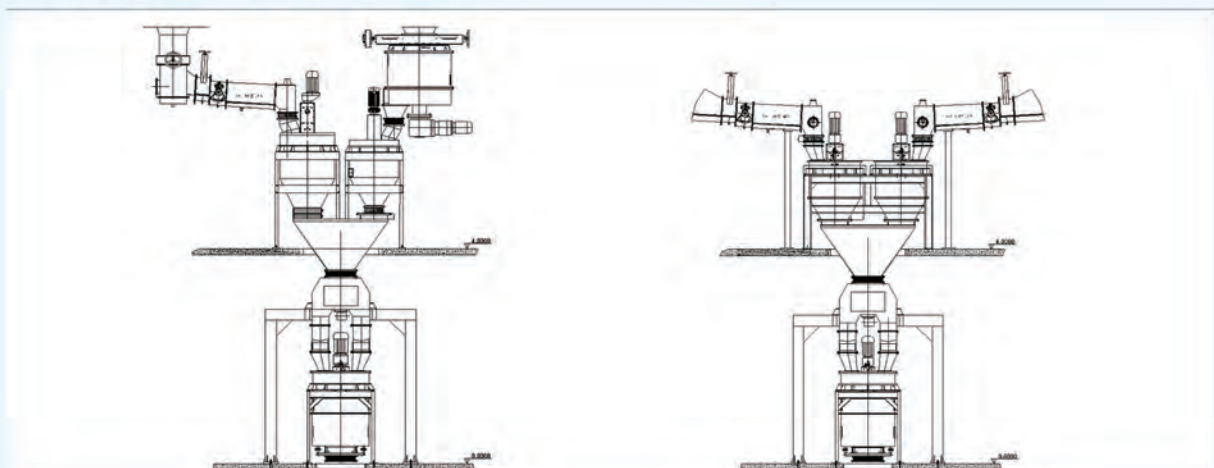
组合式连续混料机与科氏力秤完美结合，为水泥调制工艺提供优秀的粉料计量、混料系统。混料能力达到800m³/h。

The HL mixer energy consumption can save more than 70% compared to horizontal mixer with same output and effect.

The HL mixer composited with KXT flow meter, provide a excellent powdery material measuring and mixing system for cement production. The capacity can reach to 800m³/h.



工艺布置 Process Layout



方案一

方案二

PCX SERIES HIGH-EFFICIENCY FINE CRUSHER

PCX系列高效细碎机

概述 Introduction

高效细碎机适用于破碎中等硬度的物料，如水泥熟料、石灰石、叶蜡石、铝土矿、煤矸石、页岩、石膏和煤等。广泛应用于建材、冶金、化工、煤电等行业。细碎效果显著。

PCX series High-efficiency Fine Crusher is suitable for crushing medium hard materials, such as clinker, limestone, pyrophyllite, bauxite, coal gangue, shale, coal and so on. It is widely used in Building materials, Metallurgy, Chemical, Coal power and other industries. Fine crushing effect is excellent.



特点简介 Characteristics

- ① 特殊的曲面腔型设计延长了物料在机体内滞留时间，增加“锤击料”、“料撞板”和“料打料”的几率，提高了破碎效率，降低了功耗，减轻了锤头的磨损。
 - ① 多通道内筛分卸料结构，可顺畅地将已经破碎到合适粒径的细物料排出破碎腔，提高过料能力，减少物料对机件的不必要磨损，延长耐磨易损件的使用寿命。
 - ① 独特的排铁安全门机构，可将进入机内的金属异物自动排出机外，工作安全可靠。
 - ① 出机粒度的调节机构，全方位的可调性保证出机粒度始终恒定。
 - ① 维护方便，操作简单，减轻劳动强度，节省维修时间。
-
- ① Special design is to keep the material for longer retention time in housing, increasing probabilities of “hammer crushing material”, “impinging between impact plate and material” as well as “beating between material and material”. It has higher crushing efficiency, lower power consumption and less hammer wear.
 - ① Multi-cavity Inner Screen Mechanism helps to discharge particles out of crushing cavity swimmingly, so increase the capacity, reduce additional wear, and prolong service life of wearing parts.
 - ① Unique Metal Removal Safety Gates can throw out the metallic foreign matters, so it is on the safe side.
 - ① Particle Size Adjustment Mechanism can keep steady particle size from beginning to end.
 - ① Easy to maintain and operate. Reduce intensity of labor. Save the repair time.



规格与性能参数表 Specification

规格型号 Type	转子规格 Rotor specification(mm)	进料粒度 Inlet size(mm)	出料粒度 Outlet granularity(mm)	生产能力 Output (t/h)		电机功率 Power of motor (kW)
				水泥熟料 Cement clinker	石灰石 Limestone	
PCX-20	Φ800 × 400	< 100	平均<3 Average<3	12	20	30 ~ 37
PCX-30	Φ800 × 600	< 100	平均<3 Average<3	20	30	37 ~ 45
PCX-40A	Φ800 × 900	< 100	平均<3 Average<3	30	40	45 ~ 55
PCX-40	Φ1000 × 800	< 120	平均<5 Average<5	30	40	45 ~ 55
PCX-50	Φ1000 × 900	< 120	平均<5 Average<5	40	50	55 ~ 75
PCX-60	Φ1000 × 1000	< 120	平均<5 Average<5	50	60	75 ~ 90
PCX-70	Φ1000 × 1250	< 120	平均<5 Average<5	60	70	90 ~ 110
PCX-80	Φ1250 × 1000	< 150	平均<6 Average<6	70	80	90 ~ 110
PCX-100	Φ1250 × 1250	< 150	平均<6 Average<6	90	110	110 ~ 132
PCX-150	Φ1500 × 1250	< 150	平均<6 Average<6	130	150	160 ~ 200
PCX-200	Φ1500 × 1500	< 150	平均<6 Average<6	180	200	200 ~ 250
PCX-250	Φ1800 × 1500	< 200	平均<8 Average<8	220	250	280 ~ 315
PCX-300	Φ1800 × 1800	< 200	平均<8 Average<8	250	300	315 ~ 355

注：生产能力根据配置电机功率的不同会有一些的浮动。The capacity will be fluctuated according to the power of motor.





SINGLE STAGE HAMMER CRUSHER

PCZ系列单段锤式破碎机

概述 Introduction

PCZ系列单段锤式破碎机集国内外相关破碎机优点，通过多年不断改进完善而研制的新一代产品。主要用于破碎大块石灰石，破碎比大，一级破碎即可满足小粒度的要求。根据产量和进料块度的不同，可增设给料辊，可选择单转子或双转子，应用范围广。

Through several years of effort, PCZ series Single Stage Crusher is a successful new generation product gathering the advantage of the related crusher at home and abroad. It used for crushing huge limestone mainly. Fine product size can be achieved on single stage crushing owing to larger reduction ratio. According to output and ore size, add feed-roller, and choose single-rotor or double-rotor. It has been wide utilization in all fields.

特点简介 Characteristics

- ① 为适应潮湿和含土量大的矿石，本机采用特殊的排料结构，消除了堵塞粘附现象。
- ① 设计了液压启盖和抽锤轴以及取篦子小车等专用装置，方便了易损件更换。
- ① 当进料中大块比例过高时，增设给料辊，可减轻矿石对转子的冲击，使转子运转更平稳。
- ① 双转子单段锤破更适合于大产量、高水分及含土量较多的工艺要求。
- ① 独特的过铁保护装置，可将不慎进入机内的金属异物自动排出机外，工作安全可靠。
- ① 维护方便，操作简单，减轻劳动强度，节省维修时间。
- ① In order to adapt to moist and stripped soil, special discharge structure is adopted to prevent from clogging and sticking.
- ① With special devices such as hydraulic pressure opening cover, extracting hammer axle and taking out discharge grate plate dolly, the replacement of wearing parts is very easy.
- ① When the proportion of huge size ore is higher, single-rotor crusher was usually equipped with feed-roller which reduce the impact force to the rotor and ensure crusher's smooth running.
- ① The double-rotor crusher is more suitable for process requirement of larger output, higher moisture, and much stripped soil
- ① The emergency protection device could throw out the metallic foreign matters, so it is on the safe side.

Easy to maintain and operate. Reduce intensity of labor.

Save the repair time.





规格与性能参数表 Specification

规格型号 Type	转子直径 Rotor Dia. (mm)	转子宽度 Rotor Width (mm)	最大入料粒度 Max Feed Size (mm)	出料粒度 (90%) Product Size (90%) (mm)	生产能力 Capacity (t/h)	电机功率 Motor Power (kW)
PCZ1210	Φ1250	1000	480 × 480 × 480	< 5-25	40-70	90-132
PCZ1212	Φ1250	1250	480 × 480 × 600	< 5-25	60-80	132-160
PCZ1412	Φ1420	1194	600 × 600 × 800	< 25-55	80-120	132-185
PCZ1414	Φ1420	1370	600 × 600 × 900	< 25-55	100-150	160-200
PCZ1614	Φ1650	1370	600 × 600 × 900	< 25-75	120-200	200-250
PCZ1616	Φ1650	1630	800 × 800 × 1000	< 25-75	150-250	250-355
PCZ1618	Φ1650	1750	800 × 800 × 1000	< 25-75	200-300	355-450
PCZ1818	Φ1800	1750	900 × 900 × 1200	< 25-75	260-350	400-560
PCZ2018	Φ2020	1750	900 × 1000 × 1200	< 25-75	330-420	560-710
PCZ2022	Φ2020	2143	1100 × 1100 × 1250	< 25-75	500-800	710-900
2PCZ1818	2 × Φ1800	1750	1200 × 1100 × 1500	< 25-75	800-1000	2 × (560-630)
2PCZ2022	2 × Φ2020	2143	1200 × 1200 × 1500	< 25-75	1000-1400	2 × (710-900)



PCD SERIES SINGLE STAGE FINE CRUSHER

PCD系列单段细碎机

概述 Introduction

PCD系列单段细碎机适用于破碎中等硬度的物料，满足用户台时产量要求不高、进料块度大（ $\leq 1300\text{mm}$ ）、出料粒度小（ $\leq 3\sim 8\text{mm}$ ）的特殊需求，可用一段破碎取代传统的二段或三段破碎作业，破碎比大（ >50 ）。广泛应用于建材、冶金、化工、煤电等行业。

PCD series Single Stage Fine Crusher is suitable for crushing medium hard materials. It can meet the special demands of small output, large feed size ($\leq 1300\text{mm}$) and small discharging size ($\leq 3\sim 8\text{mm}$). The crushing operation can be single stage instead of traditional two or three stages because of the large crushing ratio (>50). It is widely used in Building materials, Metallurgy, Chemical, Coal power and other Industries.



特点简介 Characteristics

- 采用了较大的进料口及上破碎腔，上机体内设置中间托梁，承托入机的大块物料，锤头在托梁的间隙中运转，避免了大块物料对转子的直接冲击，从而实现了更大的允许入料粒度，更长的转子使用寿命。
- 上机体采用带篦缝的垂直反击破碎板，具有一定的透料能力，在对物料进行反击破碎的同时可及时排出符合要求的小块料，在下机体排料篦板的共同作用下，将传统的多段破碎在一段内完成，使得工作中负荷稳定，装机功率较低，从而实现了高效节能。
- 出机粒度的调节机构，全方位的可调性保证出机粒度始终恒定。
- 独特的排铁安全门机构，可将进入机内的金属异物自动排出机外，工作安全可靠。
- 结构设计简单，维护操作简便，减轻劳动强度，节省维修时间。



- ④ Applying larger inlet and upper crushing cavity, the supporting beams installed in the upper housing. They can support large feed materials which can directly impact the rotor, the hammers rotate in the spacing of beams, so the service lifetime of the rotor is extended and more large feed size is allowed.
- ④ The vertical slotted impact plate installed in the upper housing can impact lump materials and pass through small particles. Under the combined action of grates in lower housing, the traditional multistage crushing operation can be replaced by one stage crushing operations, the rated power is lower and the load is kept steady in the work process, so as to realized high efficiency and energy saving.
- ④ The adjustment mechanism of product size can keep the discharging size always constant.
- ④ Unique metal removal safety gates can throw out the metallic foreign matters, so it is on the safe side.
- ④ The simple structure design makes the maintenance operation convenient, reduces the intensity of labor and saves the repair time.

规格与性能参数表 Specification

规格型号 Type	转子规格 Rotor Size (mm)	处理能力 Capacity (t/h)	入料粒度 Feed Size (mm)	出料粒度 Product Size (mm)	电机功率 Motor Power (kW)
PCD-0808	Φ800×800	20~30	≤500	平均≤5	35~55
PCD-1010	Φ1000×1000	30~40	≤700	平均≤5	55~75
PCD-1212	Φ1250×1250	55~75	≤800	平均≤5	90~132
PCD-1412	Φ1400×1250	80~100	≤900	平均≤5	132~160
PCD-1416	Φ1400×1600	110~130	≤1000	平均≤8	180~240
PCD-1616	Φ1600×1600	140~160	≤1100	平均≤8	240~280
PCD-1618	Φ1600×1800	160~200	≤1100	平均≤10	315~355
PCD-1820	Φ1800×2000	230~280	≤1200	平均≤10	400~560
PCD-2022	Φ2000×2200	280~350	≤1300	平均≤10	500~630

注：生产能力根据配置电机功率的不同会有一定的浮动。
The capacity will be fluctuated according to the power of motor.

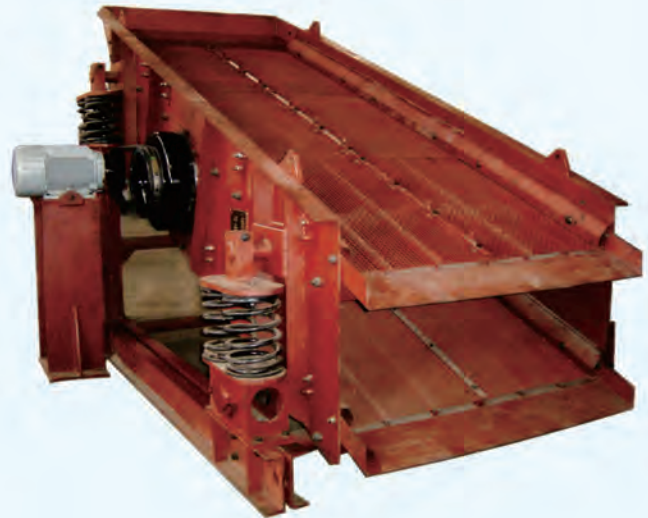
CIRCULAR VIBRATION SCREEN

YAX系列圆振动筛

概述 Introduction

YAX系列圆振动筛主要适用于水泥熟料、石灰石、煤及其它矿石等散状物料分级，其筛分效率、噪音及可靠性等指标均比国内同类产品有明显提高。当物料水分高达5~14%时，增设“筛网电加热装置”，可避免潮湿物料粘附筛网。增设“橡胶球振打装置”，可避免物料中尖锐颗粒堵塞筛孔。

YAX series Circular Vibration Screen is mainly used in the classification of bulk materials such as clinker, limestone, raw coal and other ore etc. Its technical performances such as screening efficiency, noise, reliability etc. have obviously improved than the similar ones home. When the moisture of materials is high up to 5~14%, Electric Heating Device of screen cloth will be additionally added to avoid moist material adhering screen cloth. Rubber Ball Beating Device will be additionally added to avoid edged material jamming screen mesh.



特点简介 Characteristics

- ① 运用有限元分析软件建立了圆振筛筛箱有限元模型，根据筛箱动应力分布规律，对筛箱结构进行优化，减轻了筛箱的自重并均衡了各组成构件应力分布。
- ① 侧板少焊缝，减少了加热产生的侧板应力集中和变形。
- ① 优化了激振器和隔振系统等核心部件。
- ① 筛网电加热装置可避免潮湿物料粘附筛网。
- ① 橡胶球振打装置可避免尖锐颗粒堵塞筛孔。
- ① Established the finite element model of the screen box of circular vibration screen by the finite element software. On the basis of analyzing the dynamic stress distributing rule of the screen box, which is optimized in order to make its deadweight lighter and stress distribution of various components more even.
- ① The welding lines on the side plates are decreased, thus associated heat induced stresses and distortion reduced.
- ① The vibrator and isolating system etc. are optimized.
- ① Electric Heating Device can avoid moist material adhering screen cloth.
- ① Rubber Ball Beating Device can avoid edged material jamming screen mesh.



规格与性能参数表 Specification

规格型号 Type	筛面面积 Screen Area (m ²)	筛孔尺寸 Screen Mesh Size (mm)	给料粒度 Feed Size (mm)	双振幅 Double Amplitude (mm)	振动频率 Vibration Frequency (min ⁻¹)	处理量 Capacity (t/h)	电机功率 Motor Power (kW)
YAX1236	4.3	3-50	≤200	8-11	845	60-240	11
2YAX1236	4.3	3-50	≤200	8-11	845	60-240	11
YAX1536	5.4	3-50	≤200	8-11	845	80-350	11
2YAX1536	5.4	3-50	≤200	8-11	845	80-350	15
YAX1836	6.5	3-50	≤200	8-11	845	100-420	11
2YAX1836	6.5	3-50	≤200	8-11	845	100-420	15
YAX1848	8.6	3-50	≤200	8-11	845	130-520	15
2YAX1848	8.6	3-50	≤200	8-11	845	130-520	15
YAX2148	10	3-50	≤200	8-11	748	160-630	18.5
2YAX2148	10	3-50	≤200	8-11	748	160-630	22
YAX2160	12.6	3-50	≤200	8-11	748	200-800	18.5
2YAX2160	12.6	3-50	≤200	8-11	748	200-800	22
YAX2448	11.5	3-50	≤200	8-11	748	180-700	18.5
2YAX2448	11.5	3-50	≤200	8-11	748	180-700	22
YAX2460	14.4	3-50	≤200	8-11	748	230-850	30
2YAX2460	14.4	3-50	≤200	8-11	748	230-850	30

注：超细筛分时，筛孔尺寸可<2mm。 Remark: when material needs ultrafine sieving, screen mesh size could be less than 2mm.



板式喂料机

APRON FEEDER

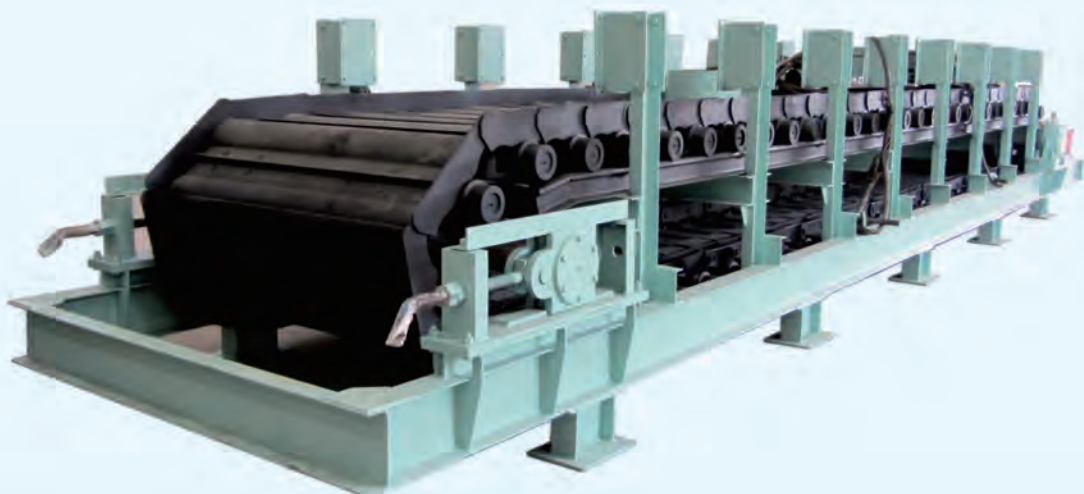
概述 Introduction

板式喂料机是一种由料仓向破碎机输送各种大块矿石的设备，可水平或倾斜布置，广泛应用于建材、冶金、矿山等行业。

Apron Feeder is used to convey various huge rocks from silo to crusher. It can be installed horizontally or aslant. It is widely used in Building material, Metallurgy and Mining industries.

特点简介 Characteristics

- ① 本机结构强度大，可承受料仓的巨大压力及大块矿石的冲击载荷。
- ① 槽板坚固结实，所用的履带牵引链耐磨损，免润滑。
- ① 传动装置悬挂于轴端，无需土建基础。
- ① 变频调速可大范围调节给料能力，满足后续破碎机工作的需要。
- ① The frame is very strong and can endure quite strong pressure from silo and impact load of huge rocks.
- ① The trough plate is very sturdy. The selected track chain is wear resistant and lubrication free.
- ① The gearing hung in end of shaft and no concrete foundation.
- ① The feeding capacity can be widely adjusted by frequency conversion timing, to satisfy the requirement of crusher.





规格与性能参数表 Specification

型号 Model	槽板宽度 Trough Width (mm)	进料粒度 Feed Size (mm)	输送速度 Conveying Speed (m/s)	输送能力 Capacity (t/h)
BWX1000 × 8505	1000	≤500	0.01 ~ 0.1	~ 120
BWX1250 × 8505	1250	≤500	0.01 ~ 0.1	~ 170
BWX1500 × 8505	1500	≤600	0.01 ~ 0.1	~ 250
BWX1800 × 9135	1800	≤600	0.01 ~ 0.1	~ 360
BZX1250 × 8046	1250	≤ 800	0.009 ~ 0.09	~ 180
BZX1500 × 9018	1500	≤ 800	0.009 ~ 0.09	~ 300
BZX1800 × 9774	1800	≤ 1000	0.009 ~ 0.09	~ 450
BZX2000 × 9990	2000	≤ 1100	0.009 ~ 0.09	~ 650
BZX2200 × 9990	2200	≤ 1200	0.009 ~ 0.09	~ 1000
BZX2300 × 11830	2300	≤ 1500	0.012 ~ 0.12	~ 1400
BZX2500 × 11830	2500	≤ 1500	0.012 ~ 0.12	~ 1800

注：喂料机长度根据工艺需求确定，安装倾角：0 ~ 23°。

Note: Length of feeder is depended on process requirement, installation Angle: 0 ~ 23° .



RECIPROCATING FEEDER

WF系列往复式喂料机

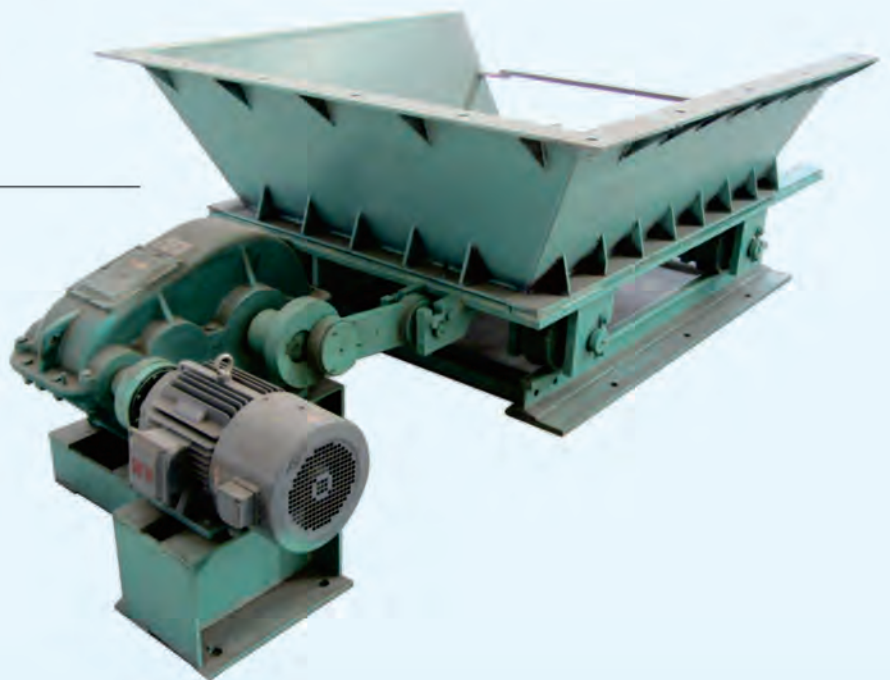
概述 Introduction

WF系列往复式喂料机是配套于各类破碎机的喂料设备，适用于非粘性物料以及板式喂料机没有安装空间的条件下。广泛应用于选矿、建材、电力、化工等行业。

WF series Reciprocating Feeder is a feeding device fitted with various crushers, suitable for non-viscous material, as well as apron feeder no setting space. It widely used in Mineral separation, Building materials, Electric power, Chemical and other industries.

特点简介 Characteristics

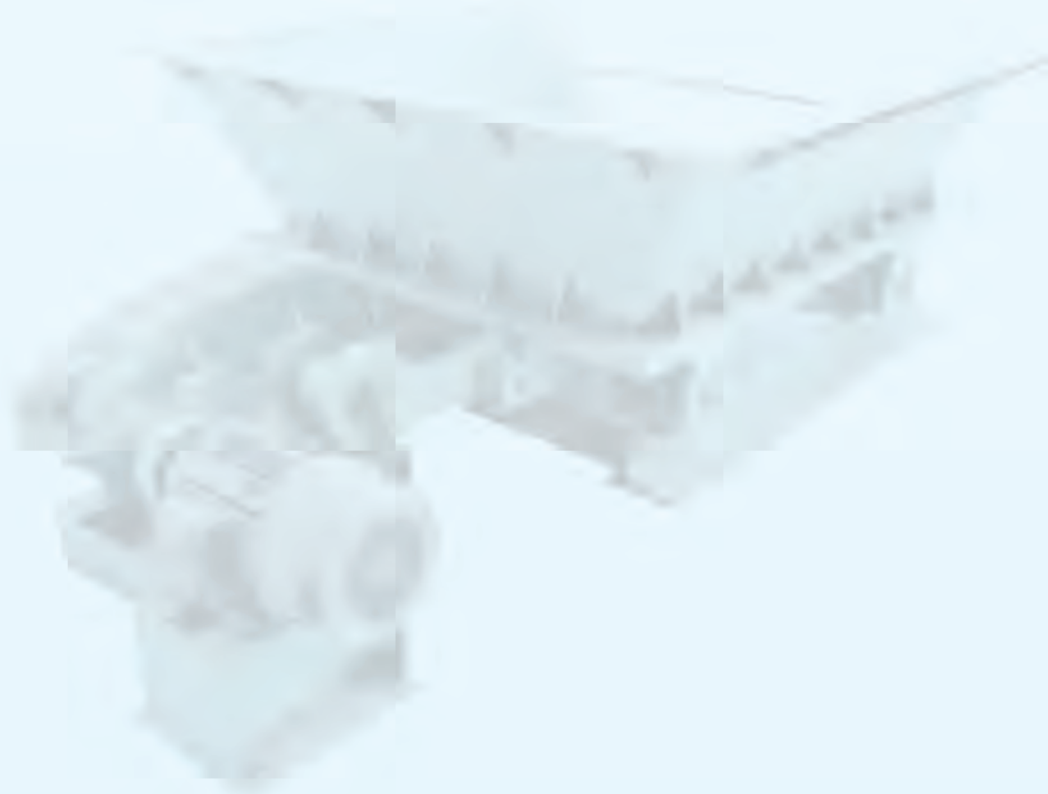
- 喂料量可及时方便地进行调节。
- 设备结构简单，运行可靠。
- 配套功率小，运行费用低。
- 基本无易损件，管理维护极其方便。
- 占地面积小，投资低。
- The feed quantity can be adjusted conveniently in time.
- Simple structure, reliable operation.
- Small motor power, low operating cost.
- No wearing parts, convenient management and maintenance.
- Space occupied is small, low investment.





规格与性能参数表 Specification

规格型号 Type	进料粒度 Feed Size (mm)	电机功率 Motor Power (kW)	喂料能力 Capacity (t/h)	外形尺寸 Overall Dimensions (mm)
WF-120	≤900	5.5 ~ 11	90 ~ 150	3390 × 1900 × 770
WF-200	≤1000	11	150 ~ 250	3900 × 2540 × 1000
WF-220	≤1200	11 ~ 22	200 ~ 280	4000 × 2600 × 1180
WF-300	≤1200	22 ~ 37	300 ~ 400	4100 × 2800 × 1240



DB TYPE VESSEL PNEUMATIC FEEDING PUMP

DB型仓式气力输送泵

概述 Introduction

可称重、可计量、自动化设置、操作简单、安全经济环保：比机械输送投资低，维护费用少，无扬尘广泛应用于水泥、生料、粉煤灰、消石灰、干排电石渣、矿渣粉、有机硅粉、煤粉、氧化铝粉、钒矿粉、重钙微粉等粉粒状物料的输送。

Can be weighed and measured, automated design, simple and safe operation.

Economic and environmental protection: The investment could be lower than mechanical conveying, and less maintenance cost, no dust emission.

It has been widely used in conveying powdery materials that include cement, raw meal, fly ash, slaked lime, dry discharged carbide slag, slag powder, organosilicon powder, pulverized coal, alumina powder, navajoite powder, ultrafine calcium etc.



特点简介 Characteristics

- ❶ 输送效率高：>400t/h
- ❶ Large capacity: >400t/h
- ❷ 输送距离远：>2000m
- ❷ Long distance : >2000m
- ❸ 低电耗：<1.0kWh/t
- ❸ Low energy consumption : <1.0kWh/t
- ❹ 磨损小：管道使用寿命>10年
- ❹ High wear-resistance: service life of pipe more than 10 years
- ❺ 低速：初速6~10m/s
- ❺ Low velocity : initial velocity 6~10m/s
- ❻ 高混比：>30kg/kg
- ❻ High mix ratio : >30kg/kg

DB型仓式气力输送泵选型表 DB type Vessel Pneumatic Pump Selection Table

型号 Model	容积 Volume (m ³)	输送量 Capacity (t/h)
DB1000	1.0	1 ~ 5
DB1400	2 ~ 4	5 ~ 25
DB1800	5 ~ 10	25 ~ 60
DB2200	11 ~ 18	40 ~ 150
DB2600	20 ~ 25	100 ~ 200
DB2800	25 ~ 30	150 ~ 250
DB3000	30 ~ 35	200 ~ 300

HFX MODEL VACUUM DRAW SYSTEM

HFX型负压抽吸系统

概述 Introduction

新型流态化式吸嘴和精巧的清扫装置设计；自动化程度高、操作简单、节能高、运行成本低；做最好的散料卸船设备

New type Fluidizing Suction Nozzle and delicate cleaning device design. High degree of automation, simple operation, high Energy-saving, Low running cost. Do the best of the bulk material unloader device powder, ultrafine calcium etc.

特点简介 Characteristics

- ❶ 卸船效率高：>500t/h
- ❷ 低电耗：<1.8kWh/t
- ❸ 高效分离器：99%分离
- ❹ 长液压臂：16~45m
- ❺ Large capacity: >500t/h
- ❻ Low energy consumption: <1.8kWh/t
- ❼ Efficient separator: 99% separation
- ❽ Long Hydraulic Arm: 16~45m



HFX型负压抽吸系统选型表 Table1 HFX model Vacuum Draw System Selection Table

型号 Model	输送量 (以粉煤灰为例) Capacity (Fly Ash example)	液压臂型号 Hydraulic Arm Type
HFX80	<60t/h	液压臂需要根据工程实际进行单机设计，长度覆盖范围16m~45m，回转角度±90° Hydraulic Arm is needed special design according to actual engineering, which length covering scope are 16m~45m and the turning angel are ±90°
HFX100	60t/h~100t/h	
HFX120	100t/h~150t/h	
HFX150	150t/h~200t/h	
HFX200	200t/h~250t/h	
HFX250	250t/h~300t/h	
HFX300	300t/h~350t/h	
HFX350	350t/h~400t/h	
HFX400	400t/h~450t/h	
HFX450	450t/h~500t/h	
HFX500	>500t/h	



WEAR AND HEAT RESISTANT MATERIALS

耐磨耐热材料

概述 Introduction

合肥水泥研究设计院从事耐磨耐热材料的研发、制造与磨机改造三十余年，技术力量雄厚，实际经验丰富。拥有十余项科技成果：节能型沟槽衬板、双螺旋段分级衬板、控制流内筛分隔仓板、中碳多元合金钢、高韧性高铬铸铁、高碳中铬合金钢、湿式磨机新材质衬板、熟料破碎机高韧性耐磨锤头、高碳奥氏体锰钢、SR-I型铬镍耐热钢等，以耐磨损、耐冲击、耐腐蚀、耐高温为主要研究方向。

HCRDI has been engaged in research and development, manufacture of wear-resistant and heat-resistant materials and mill reform more than 30 years. It has a strong technical force and abundant practical experience. It has been awarded 10 scientific research achievements: New Pattern Mill Liner Grooved Liner, Double Spiral Classifying Liner for Cylpebs, Control Flow Inner-screening Diaphragm, Medium Carbon Multi-component Alloy Steel, High-toughness High-Cr Cast Iron, High Carbon Medium Chromium Alloy Steel, New Material Liner in Wet Ball Mill, High Toughness Wear-resistant Hammer in Clinker Crusher, High Carbon Austenite Manganese Steel, SR-I type Cr-Ni Heat-resistant Steel, etc. Wear resistant, impact resistant, corrosion resistant and high temperature resistant materials are our Main Research Field.



Φ5×15m水泥磨沟槽衬板使用1.5年后形貌
Grooved liner appearance after 1.5 years in Φ5×15m



Φ3.8×13m水泥磨沟槽衬板与锥面衬板组合
Combined grooved liners in 2nd chamber Φ3.8×13m



规格与性能参数表 Specification

材质名称 Materials	应用范围Application Scope	使用寿命 Service Life	硬度 Hardness	冲击韧性 Impact Toughness
高韧性高铬铸铁 High-toughness High-Cr Cast Iron	≤Φ5m磨机衬板、端衬板、立磨衬板 Shell liner, head liner in ≤Φ5m mill, Vertical mill liner	≥7年 ≥7 years	HRC≥60	8~10 J/cm ²
高铬铸铁 I High-Cr Cast Iron I		≥6年 ≥6 years	HRC≥60	7~9 J/cm ²
高铬铸铁 II High-Cr Cast Iron II	≤Φ4.2m磨机衬板、端衬板 Shell liner, Head liner in ≤Φ4.2m mill	≥5年 ≥5 years	HRC≥58	6~8 J/cm ²
高铬铸钢 High-Cr Cast Steel		≥4年 ≥4 years	HRC≥55	6~9 J/cm ²
铬钼镍合金钢 Cr-Mo-Ni alloy steel	≤Φ5m磨机衬板、端衬板、隔仓板、篦板 Shell liner, Head liner, Diaphragm, Grid plate in ≤Φ5m mill	≥4年 ≥4 years	HRC≥52	≥40 J/cm ²
中碳多元合金钢 Medium-carbon multi-component alloy steel		≥3年 ≥3 years	HRC≥50	≥30 J/cm ²
中铬合金钢 Medium-Cr alloy steel		≥2年 ≥2 years	HRC≥48	≥20 J/cm ²
低合金钢 Low alloy steel		≥1.5年 ≥1.5 years	HRC≥45	≥40 J/cm ²
低碳高合金钢 Low carbon high alloy steel	矿山湿法磨机衬板、端衬板、格子板 Shell liner, Head liner, Grid plate in mine wet mill 大型生料磨烘干仓盲板 Blind plate of drying chamber in large-sized raw mill	≥1年 ≥1 years	HRC≥46	≥50 J/cm ²
		≥3年 ≥3 years		
高锰钢 (Mn13) High-Mn steel (Mn13)	矿山湿法磨机衬板、端衬板、格子板 Shell liner, Head liner, Grid plate in mine wet mill	≥6个月 ≥6 months	Hb≥200	≥147 J/cm ²
合金高锰钢 Alloyed High-Mn steel	破碎机反击板、篦板、颚板 Impact plate, Grid plate, Jaw plate of all kinds of crushers	≥1年 ≥1 years	HB≥220	≥120 J/cm ²

材质名称 Materials	应用范围Application Scope	硬度 Hardness	冲击韧性 Impact Toughness
超高韧性高铬铸铁 (Cr22Mo2NiCuWV) Super high-toughness high-Cr cast iron	熟料破碎机锤头, 板锤 Clinker crusher hammer, Blow bar	HRC≥60	7~10 J/cm
合金高锰钢 (Mn13Cr2) Alloyed high-Mn steel		Hb≥220	≥120 J/cm
超高锰钢 (Mn17Cr3) Super high-Mn steel	大型破碎机锤头 Large-scale crusher hammer	Hb≥240	≥120 J/cm
双金属复合铸造 Bimetal composite casting		头部 head HRC≥60	柄部 handle ≥50 J/cm



散装设备

BULK FACILITIES

概述 Introduction

Sz系列水泥散装机：用于粉体物料的库底、库侧散装装车，除尘效果好，装车效率高，工艺适应性强。

SLZ系列熟料装车机：用于水泥熟料等颗粒状物料的装车。产品经久耐用、防尘效果好、装车可靠。

散装水泥装船及卸船系统：装船能力<1000t/h；负压抽吸卸船能力<100t/h，正压输送距离<2000m。

SZ series cement bulk loader: used for bulk loading of powdered materials at silo bottom and silo side. It has such characteristics as effective dedusting capability, high loading efficiency and good process adaptability.

SLZ series clinker loader: used for particle materials like cement clinker. It has long service life with good dust proof effect and reliable loading.

Ship loading and unloading system for bulk cement: loading capacity is less than 1000t/h; Suction ship unloading capacity is less than 100t/h and pressure conveying distance is less than 2000m.

特点简介 Characteristic

粉体散装机主要技术特点

- ① 全自动无尘装车，操作劳动强度低，无粉尘泄漏，环保效果好
- ① 工艺适应性强，整机采用模块化设计，布置灵活，可根据不同工艺方便地进行设备调整
- ① 装车效率高，物料通过能力大，机械性能可靠，运转率高，维护量极小
- ① 料满控制仪采用恒稳流控制，数码显示报警，适应各种粉体装料工况，气源噪音低，能耗低
- ① 升降机构采用整体设计，防乱绳，电磁联体制动，运行平稳，安全可靠
- ① 伸缩内套为特殊材料制作，抗拉耐磨
- ① 特制联体除尘系统除尘效率高，能耗低，适应散装过程特点，粉尘排放达到国家相关标准

Main technical characteristics of powdered bulk loader

- ① Full automatic dust free loading, low working intensity, no dust leakage and effective environment protection.
- ① Good process adaptability, modularized design of equipment, flexible arrangement and adjustments can be made according to different processes.
- ① High loading efficiency, big feeding capacity, reliable mechanical performance, high running rate and minimized maintenance.
- ① Material level control instrument uses stable flow control, digital display of the alarm, suitable for all kinds of powdered material loading, small air noise and low energy consumption.
- ① Integral design of elevator, no rope winding, electromagnetic combined brake, stable, safe and reliable operation.
- ① Internal extension sleeve is made of special materials, tensile and wear resistant.
- ① Special combined dedusting system has the features of high dedusting efficiency and low energy consumption and is adaptable to bulk loading. Dust emission reaches related national standards.

特点简介 Characteristic

熟料装车机主要技术特点

- ① 锁料阀专门为锁颗粒状物料而设计，开关灵活工作可靠，全密封结构无粉尘外泄
- ① 采用可伸缩双层结构下料管，内层用耐磨金属制作，外层用耐磨橡胶作裙边，经久耐用
- ① 设有双料位跟踪装置，有效防止物料堵塞，装车效率高，工作十分可靠
- ① 料位跟踪装置灵敏简单不怕任何干扰，基本不耗电

Main technical characteristics of clinker loader

- ① Material lock valve specially designed for particle materials, convenient on and off, reliable operation, totally sealed structure and no dust leakage.
- ① Extensible double layer discharge pipe is used. Inner layer is made of wear resistant metal and wear resistant rubber is used as apron.
- ① Double level tracking device is set to effectively prevent material block to secure high loading efficiency and reliable operation.
- ① Level tracking device is sensitive and simple with resistance of any interference and little power consumption.



水泥散装机Cement bulk loader



负压抽吸卸船设备Suction ship unloading facilities



装船机Ship loader



熟料装车机Clinker loader



散装设备 BULK FACILITIES

SZ92A-3(X) Q SERIES THREE-D MOVING BULK POWDER LOADER

SZ92A-3(X) Q系列三维移动式粉体散装机

概述 Introduction

SZ92A-3 (X) Q系列三维移动式粉体散装机为国内首创的新型散装机，主要用于干燥粉体的散装装车作业，其性能优越，克服了传统散装机的许多缺点。

It is the first in domestic markets SZ92A-3 (X) Q series three-D moving bulk powder loader. They are used for loading dry powder to tanker. It has superior performances and improved on tradition loader.

特点简介 Characteristic

- ① 装料头可作三维移动，提高装车对位效率，保障安全生产，减少设备故障。
- ① 采用固定板弹性密封，密封可靠，维修量小，安装简便。
- ① 采用独特收尘系统，增加排风风量，确保系统负压，有效防止粉尘外泄。
- ① 采用最新式料满控制仪，数码显示，抗干扰能力强，工作稳定可靠。
- ① 采用防乱绳结构，升降机构运转平稳，钢丝绳使用寿命长更换方便。
- ① The loading head can move along three-D. Be beneficial to loading efficiency, safe operation and preventing failure of the equipment.
- ① Adopt the elastic sealing of fixed plate. Reliable seal, reducing maintenance work, easy installation.
- ① Adopt the oneness system of dust collection. Increasing air rate, guaranteeing negative pressure of the system, preventing dust leakage.
- ① Adopt up to date material level instrument. Digital display, anti-interference, steady and reliable work.
- ① Adopt the structure preventing tangle rope. Elevator runs steadily. The steel rope has longer service life and replace

技术参数 Technical Parameters

- | | |
|--|--|
| ① 装车能力 (m ³ /h) : ~200 | ① Loading capacity (m ³ /h) : ~200 |
| ① 装料头移动距离 (m) : | ① Moving distance (m) : |
| 水平面沿轨道方向 : 1.1 | The direction along the railway 1.1 , |
| 水平面垂直轨道方向 : 0.4 | The direction being perpendicular to the railway 0.4 , |
| 上下方向根据客户要求定 | The distance of vertical moving can be made by request. |
| ① 行走电机功率 (kW) : 1.1 | ① Moving motor power (kW) : 1.1 |
| ① 升降电机功率 (kW) : 1.1 | ① Elevator motor power (kW) : 1.1 |
| ① 供气压力 (MPa) : >0.4 | ① Air pressure (MPa) : >0.4 |
| ① 配套除尘器风量 (m ³ /h) : 3000 | ① The air volume of supporting dust catcher (m ³ /h) : 3000 |
| ① 除尘风机电机 (kW) : 5.5 | ① The fan motor power (kW) : 5.5 |



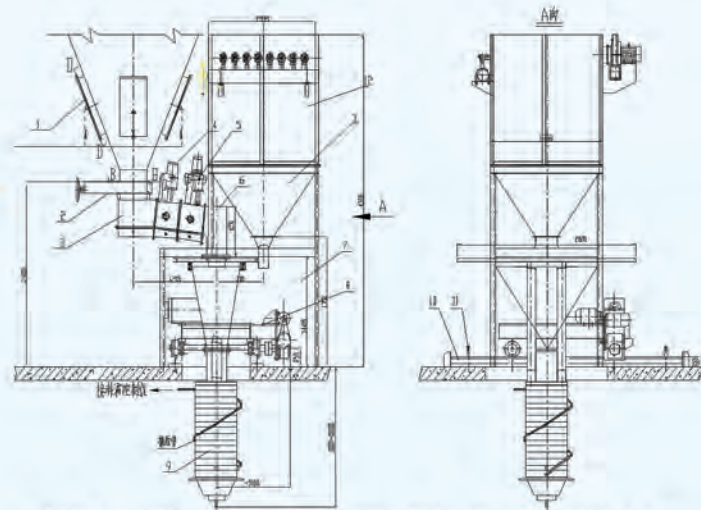
散装设备 BULK FACILITIES

SZ92A-3(X) Q SERIES
THREE-D MOVING BULK POWDER LOADER

SZ92A-3(X) Q系列三维移动式粉体散装机

SZ92A-3(X) Q-1C
库底移动式粉体散装机

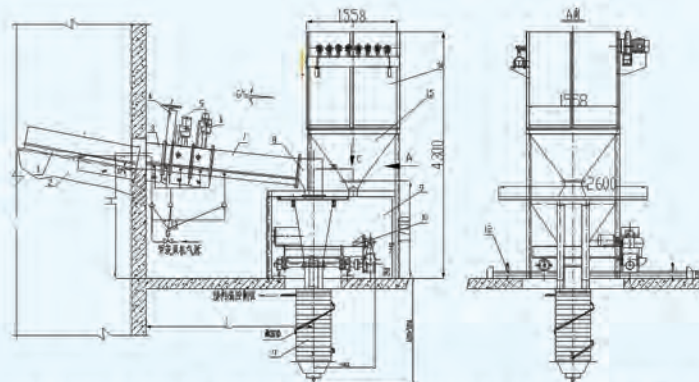
Moving Bulk Powder Loader for Silo Bottom



1.溢流底盖 2.密封式螺旋输送机 3.原料斗 4.沉沙筒 5.溢流筒 6.斗壳 7.密封壳 8.密封小伞 9.密封环 10.密封 11.密封壳 12.密封 13.密封 14.密封

SZ92A-3(X) Q-2C
库侧移动式粉体散装机

Moving Bulk Powder Loader for Silo Side



1.密封筒 2.密封筒盖 3.密封筒盖 4.密封筒盖 5.密封筒盖 6.密封筒盖 7.密封筒盖 8.密封筒盖 9.密封筒盖 10.密封筒盖 11.密封筒盖 12.密封筒盖 13.密封筒盖 14.密封筒盖 15.密封筒盖

注：图中尺寸仅供参考，不作为设计依据；详细资料以实际提资文件为准



散装设备

BULK FACILITIES

规格与性能参数表 Specification

序号	产品名称	规格型号		技术参数	备注	
1	粉体散装机	SZ92A-1		装车能力<120t	用于库底装车，布置简单。	
		SZ92A-1-1				
2		SZ92A-1(F)	B300	装车能力<150t	用于库底装车，卸料顺畅，装车能力有保障。	
			B400	装车能力<250t		
3		SZ92A-2/2(F)	B300	装车能力<150t	用于库侧装车，装车效率高。	
			B400	装车能力<250t		
4		SZ92A-2(G)		装车能力<250t	用于双库卸料一个点装车，节省投资。	
5		移动式粉体散装机	SZ92A-3(X)	B300	装车能力<150t	用于装大型车辆，提高装车效率。 装料头移动距离左右各0.5m。
				B400	装车能力<250t	
6			SZ92A-3(D)	B300	装车能力<150t	用于装大型车辆，提高装车效率。 装料头移动距离-3.0m。
	B400			装车能力<250t		
7	船用粉体散装机	SZ92A-C200		装车能力200t	用于装吨位在500吨以下普船或专用船。 设备轻便灵活。	
8	熟料装车机	SLZ-300		装车能力<300t	用于水泥熟料装车及物料装入敞开式车厢场合， 库底、库侧均可安装， 布置灵活，工作可靠，经久耐用。	
9	流态化库侧卸料器	LXL-S	B300	卸料能力 10~150t	用于各种粉体储库卸料，双阀门控制， 卸料顺畅，可实现远程流量调节。	
			B400	卸料能力 10~300t		
10		LXL-D	B300	卸料能力 10~150t	用于各种粉体储库卸料，单阀门控制， 卸料顺畅，结构简单，节省投资。	
			B400	卸料能力 10~300t		
11	均化库流化装置	LHZ	化纤透气层	耐热<150℃	用于各类均化库和辅助卸料装置， 透气性能好，不返灰， 槽体刚性好，经久耐用， 根据设计者需要可制作成各种形状	
			碳化硅透气层	耐热<300℃		
12	吨袋包装机	DZ1500		装包能力 25bags/h	用于干燥粉(粒)体的吨袋包装	
13	空气输送斜槽	XZH	B200-B800	5~1000t/h	用于干粉状物料输送，特制斜槽结构， 输送效率高，节能防雨。	



散装设备

BULK FACILITIES

规格与性能参数表 Specification

No.	Name	Type	Technical parameter	Remarks	
1	Powdered bulk loader	SZ92A-1		Loading capacity<120t	Simple arrangement and used for loading at silo bottom
		SZ92A-1-1			
2		SZ92A-1(F)	B300	Loading capacity<150t	Used for loading at silo bottom, smooth discharge and guaranteed loading capacity
			B400	Loading capacity<250t	
3	SZ92A-2/2(F)	B300	Loading capacity<150t	High loading efficiency, used for loading at silo side	
		B400	Loading capacity<250t		
4		SZ92A-2(G)		Loading capacity<250t	Economic investment, used for loading at one point for two silos
5	Moving Powdered bulk loader	SZ92A-3(X)	B300	Loading capacity<150t	Used for loading large size vehicle, improved loading efficiency and 0.5m left or right in traveling distance of loading nozzle
			B400	Loading capacity<250t	
6		SZ92A-3(D)	B300	Loading capacity<150t	Used for loading large size vehicle, improved loading efficiency and about 3m in traveling distance of loading nozzle
			B400	Loading capacity<250t	
7	Powdered bulkloader for ship	SZ92A-C200		Loading capacity<200t	Lightweight and flexible, used for loading common or special ship with tonnage below 500t.
8	Clinker loader	SLZ-300		Loading capacity<<300t	Flexible arrangement, reliable operation and long service life, used for cement clinker loading and loading material into vehicles with open carriage.
9	Fluidization silo side discharge device	LXL-S	B300	Unloading capacity 10~150t	Used for powdered material silo discharge, double valve control and smooth discharge. Remote adjustment of flow can be realized.
			B400	Unloading capacity 10~300t	
10		LXL-D	B300	Unloading capacity 10~150t	Used for powdered material silo discharge, single valve control, smooth discharge, simple structure and economic investment.
			B400	Unloading capacity 10~300t	
11	Fluidization device of homogenization silo	LHZ	Air permeable chemical fiber layer	Heat resistance <150℃	Used for homogenization silo and auxiliary discharge device, high air permeability, no dust return, good rigidity of trough body and long service life. Different shapes can be made according to design requirements.
			Air permeable silicon carbide layer	Heat resistance <300℃	
12	Tons Bag Packaging Machine	DZ1500		Packing capacity 25 bags / h	Used for packing dry powder with tons bag.
13	Air slide	XZH	B200-B800	5~1000t/h	Special slide structure, high conveying efficiency, energy saving and water proof, used for conveying dry powdered materials



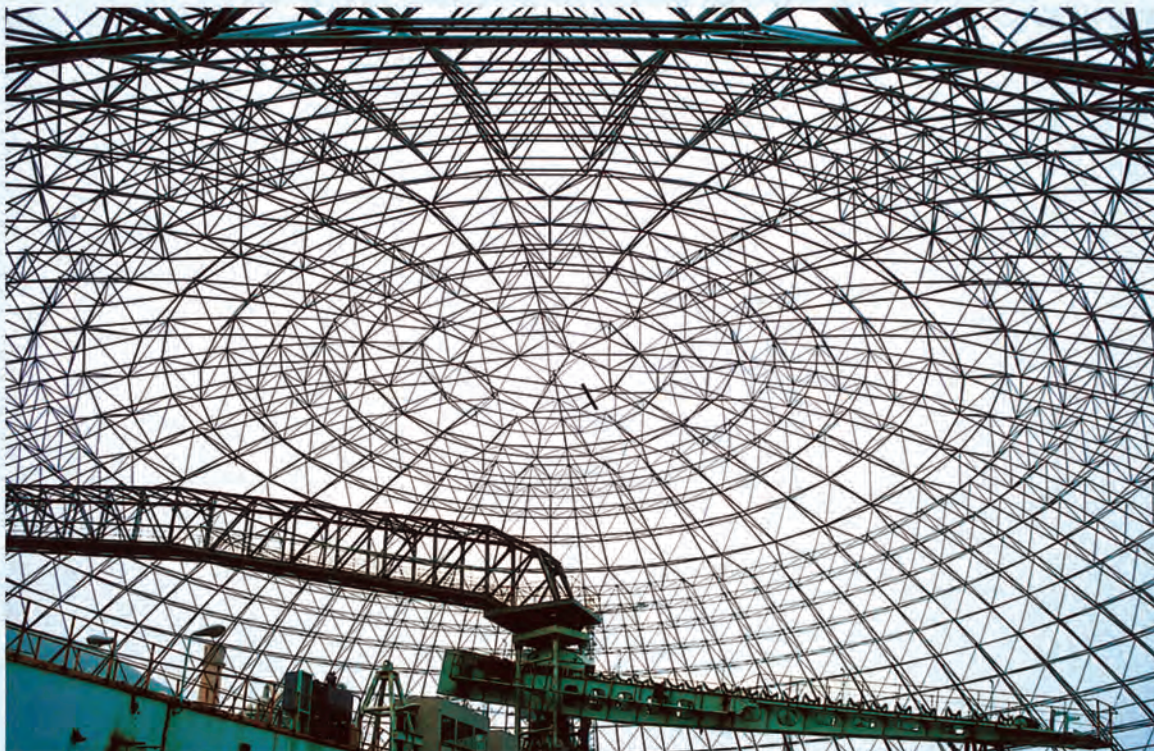
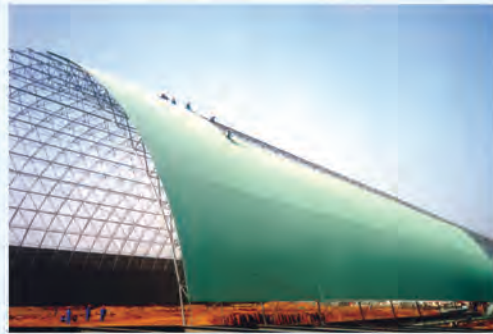
STEEL STRUCTURE ENGINEERING

钢结构工程

概述 Introduction

中亚钢结构工程公司是合肥水泥院的子公司，是集科研、设计、制造、安装服务为一体的技术密集型的建筑安装企业，技术力量雄厚、生产设备先进、综合实力强劲、主要从事空间钢结构、钢网架、钢彩板业务。公司通过了建设部审核，并获得钢结构、钢网架施工一级资质，具有承接各类大型钢结构建筑工程的能力，在国内外承接过数十项大型工程，有良好业绩。

Anhui Zhongya Steel Structure Engineering Company is a subsidiary of HCRDI. It combines research, design, manufacture and erection into one. It has strong technical strength, advanced manufacturing equipment, comprehensive capability. Its major business is steel structure, steel sheds and frames and color steel plates. It has passed the check by Ministry of Construction and obtained first class qualification in constructing steel structure, and steel Sheds and frames. It is capable of undertaking construction of various types of large-scale steel structure projects. It has completed more than ten large construction projects both at home and abroad with outstanding performance.





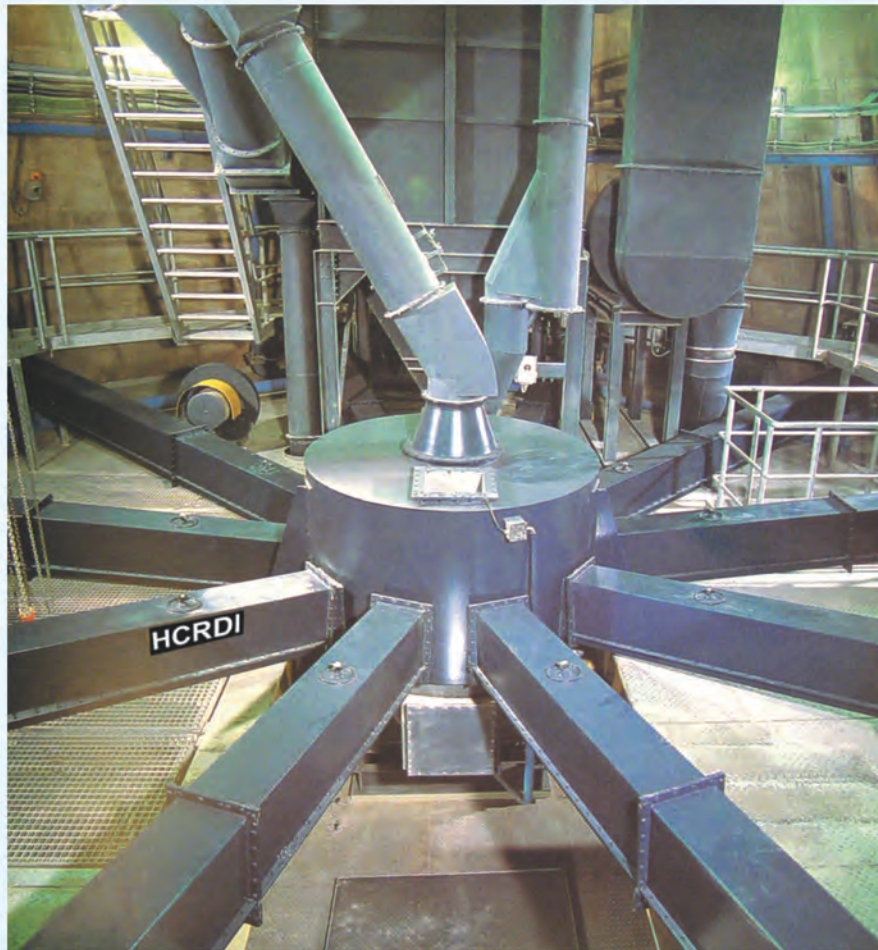
HOMOGENIZATION FACILITY

均化设施

○ 概 述 Introduction

合肥水泥院研制的连续式生料（水泥）均化库有中心室型、多股流型、控制流型、切线型等，可提供规格 $\Phi 10\text{m}\sim 28\text{m}$ 的系列产品。

Continuous Raw Meal(Cement) Homogenization Silo developed by HCRDI has different models:Center room type,Multi-stream type,Controlled stream type and Tangent line type.Specification $\Phi 10\text{m}\sim 28\text{m}$.





中国建材

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