EPIC POWDER ™

finer material for better world
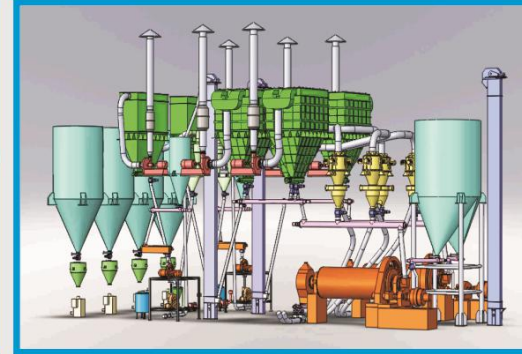
Advanced Powder Processing Technology

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Benefit from our vast experience to find the utmost solution for processing your materials!

2007: AsiaTsing (Shanghai) Engineering And Equipment Co., Ltd was established in Shanghai city of China, to help Mr Kretschmer/IVA Germany handle powder processing projects in China.

2010: AsiaTsing cooperated with Micron (Qingdao) Powder Technology And Equipment Co., Ltd, to design and supply fine powder processing projects in China and abroad.

2012: AsiaTsing joined hands with EPIC Group to build EPIC POWDER Machinery Co., Ltd in Qingdao city of China, to develop business in powder processing industry in worldmarket.

We EPIC POWDER are specialized in fine powder processing technology for mineral industry, chemical industry, food industry, pharma industry, etc.

We are a most professional supplier of powder processing projects, especially powder milling, powder classifying, powder dispersing, powder surface treatment and waste recycling, by dry process and wet process. We supply consultancy, testing, project design, machines, commissioning and training.

Our team has more than 20 years experience in various powders processing, and had ever designed and installed the biggest Ball Mill + Air Classifiers Line for ultra-fine calcium carbonate powder production in China, and the biggest Jet Mill Line for ultra-fine barite powder production in China.

Much of our technology and experience were developed under the technical instruction of our former partners Mr. B. Kretschmer and Mr. H. Horlamus. Mr. Kretschmer has 25 years experience with Hosokawa Alpine Germany (head of engineering), and Mr Horlamus was the major designer of advanced classifiers in Hosokawa Alpine and had got several patents of classifiers. We also have a consultant from Australia – Mr. Victor Evele, who had ever worked in Omya for 28 years (1981–2009), including 15 years in Omya's project team as a senior engineer, involved in many new project design and old project improvement in Omya. With our constant effort and our partners' support, we are confident to grow to be one of the top players on the world stage and be able to compete with any European suppliers.

We have a substantial test database with over 5,000 test reports of over 1,000 different materials from mineral industries, chemical industries, food and agriculture industries, and pharmaceutical industry. Our experienced and dedicated engineers are available to assist you with your test requirements, answer any questions you may have about powder processing systems, and provide practical application information on any of our products.

We adhere to the principle of the long-term cooperation with customers. Our target is to realize a perfect combination of advanced technology and low investment for our customers. We believe, with our advanced technology and our constant effort, we can help you leap to the front row of powder processing world!

CONTENTS

Superfine Roller Mill

• Superfine Roller Mill

Superfine roller mill is developed by our engineers under the technical instruction of our consultants from Germany and UK. It has been widely proven by our clients that it is a very successful design. It was designed to achieve lower energy consumption than ball mill for non-metallic mineral powder grinding in the beginning, and now it has expanded its application to other industries like fine chemicals, construction material, high-tech new material.

• Operation Description:

1. Superfine roller mill system mainly includes raw material silo, raw material feeder, roller mill, cyclone collector (option), bag filter collector, suction fan, control cabinet.
2. The roller mill integrates the roller grinding system on bottom and the turbo classifier system on top. The roller grinding system has 3-4 layers of rollers. The turbo classifier has 1 classifier wheel vertically installed on top.
3. The raw material is fed into the mill from top side, and is distributed to rollers around. When the raw material passes through the gap between rollers and grinding track, it would be impacted, pressed and ground to fine powder. When the material has passed through the 3-4 layers of rollers from top to bottom, it would be throwed out to the shell wall, from where it would be carried by the suction air flow up to the classifier wheel. The qualified fine particles pass through the vane gaps of classifier wheel, and fly out of the mill from top with suction air stream; the oversize particles are rejected by centrifugal force of high-speed rotating classifier wheel, and falls down to the 1st layer of rollers and mixes with fresh feed for further grinding.

• Features:

1. It is suitable for fine powder grinding of most materials of Mohs hardness less than 6.
2. It can make a wide range of product fineness, 200mesh-2,500 mesh all possible.
3. Its integrated high-precision powder classifier on top guarantees good product fineness. And the particle size distribution of its finished product is adjustable.
4. It requires low energy consumption than other types of grinding mills like ball mill, impact mill and jet mill in most cases.
5. It requires lower investment cost and smaller installation space than ball mill.
6. It is good for heavy-duty grinding and low maintenance. Hard-wearing material is selected for key components like rollers and grinding track.
7. Its structure design is optimized for easy replacement of key components and minimum downtime.
8. Intelligent PLC control system makes sure simple operation and stable production.
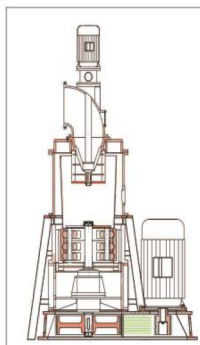
• Applications:

- calcium carbonate (limestone, marble, chalk)
- dolomite
- gypsum
- talc
- barite
- petrol coke
- battery material
- activated carbon
- carbon black from pyrolyzed waste tire

• Technical Data

Model	Feed Size (mm)	Moisture (%)	Fineness (um)	Capacity (t/h)	Mill Motor (kW)
SRM800	< 10	< 5	5 – 45	0.5 – 4	75
SRM1000	< 10 – 20	< 5	5 – 45	1 – 8	132
SRM1250	< 10 – 20	< 5	5 – 45	1.5 – 12	185
SRM1680	< 10 – 20	< 5	5 – 45	3 – 22	315

Note: the throughput or production capacity depends heavily on material hardness, abrasiveness, specific density, moisture and flow-ability. The data above is just for your reference.

Superfine Ball Mill

• Superfine Ball Mill

Due to low speed rotation, ball mills are ideal for hard and abrasive materials like Quartz and Zircon sand as well as for grinding soft minerals as Calcium Carbonate and Kaolin. The mechanism of grinding takes place with minimum of impact and attrition energy, so ball mills are good for mass production of high-quality powder. Our ball mills vary from 75kW to 2000kW.

• Features

- With Al2O3 or silex or steel lining.
- Mainly designed with overflow type or grate discharge wall.
- With air through the mill or with air-swept principle to get cooler and take out grinded material.
- Outlet with hood overhead or gravity outlet.
- With slot wall with lifters and cone into outlet for steel lining mill.
- With counter screw to hold grinding media in the mill or grit for Al2O3/silex lining mill.
- The mills can be loaded with a high filling degree up to 30 - 40% volume by grinding media.
- Supported on roller bearings with automatic lubrication system.
- Ball mills drives are optimal adapted to the grinding energy.
- Equipped with servo drive motor for big mills.
- Inlet chute for ball mill includes accessory for feeding grinding aid directly into the mill drum.
- Other tailored design can be realized.

• Application

- Mineral powders
- Construction materials
- Refractory materials
- Ceramic fillers
- Chemical products

Air Classifier HTS

• Air Classifier HTS

This air classifiers series HTS has been developed especially for ultra fine products from 2micron to 120micron.
The main point of its development was to achieve a high fineness of the end product. A good sharpness, high efficiency and low specific energy consumption with highest fines output were the guideline for this classifier design too.

The classifying wheel of the series HTS is especially designed for highest strength during production. The wheel is placed in a horizontal position. The wheel can be controlled and maintained via a hinged door. We use different materials for classifier wheel to meet different production requirements:

- high-Mn steel
- stainless steel
- full ceramics
- aluminum alloy
- PU coated
- Tungsten carbide coated

We have developed several designs to meet different project requirements:
- HTS single-wheel
- HTS multi-wheel
- HTS-C for finer product
- HTS-D for finer product & higher efficiency

• Features

- Separate rotor housing for easy maintenance
- Fine classification with high performance
- Feed from top or bottom with main air stream for high feed rates
- High speed drive system
- Adjustment of cut point by variable rotor speed via frequency converter
- Construction material can be mild steel, stainless steel and wear
  protection by PU or ceramics
- Replaceable rotor parts
- The solid construction and the selected materials of construction give
  a long life time with low maintenance costs

• Application

- Mineral fillers
- Ceramic fillers
- Metal powder
- Food materials
- Chemical products
- Other soft to hard powders
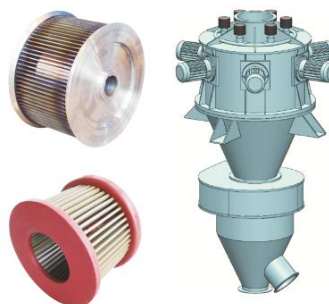
• Technical Data

Model	HTS100	HTS140	HTS200	HTS315	HTS400	HTS500	HTS630	HTS750	HTS1000
Motor(kW)	3–4	4–5.5	5.5–7.5	11–18.5	15–30	18.5–37	22–45	30–55	45–75
Fineness(d97: um)	2–120	2–120	2–120	2–120	3–120	3–120	5–120	7–120	12–120
Throughput (ton / hour)	0.02–0.3	0.05–0.6	0.1–1.2	0.2–3	0.5–5	0.7–7.5	1.5–12	3–17	6–30

Model	HTS200/4	HTS315/3	HTS315/4	HTS315/6	HTS400/6	HTS500/4	HTS500/6	HTS630/6
Motor(kW)	22–30	33–55.5	44–74	66–111	90–180	74–148	111–222	132–270
Fineness(d97: um)	2–120	2–120	2–120	2–120	3–120	3–120	3–120	5–120
Throughput (ton / hour)	0.4–5	0.6–9	0.8–12	1.2–18	3–30	3–30	4–45	9–72

Note: the throughput or production capacity depends heavily on raw material fineness, density, moisture and flow–ability. The data above is just for your reference.

Air Classifier ITC

• Turbo Classifier ITC

The ITC air classifier is designed for fine classifications in the range of 2 - 150 μm.
This type of classifier belongs to the family of turbo classifiers. The wheel is placed in a vertical position to get a good dispersion of the feed product.
The feed is transported by the primary air stream into the classifying chamber or is fed from top by gravity. The secondary air stream enters the classifier from a ring of guide vanes or from air inlet at bottom cone.

The classifier can work independently or be integrated in a grinding - classifying circuit. For this application a high feed rate with a good yield is assured.

The materials of construction are selected for highest strength during production.

We have developed several designs to meet different project requirements:
- ITC
- ITC-S for coarse product
- ITC-C for finer product
- ITC-D for finer product & higher efficiency

• Features

- Fine classification with high performance
- Direct and belt drive available
- Feed tangential in the classifying zone
- Lower speed rates required
- Adjustment of cut point by variable rotor speed via frequency converter
- Construction material can be mild steel, stainless steel or wear protected
- The solid construction and the selected materials of construction give a
- long life time with low maintenance costs and low investment

• Application

- Mineral fillers
- Ceramic fillers
- Metal powder
- Food material
- Chemical products
- Other soft to hard powders

• Technical Data

| Model	ITC–0	ITC–1	ITC–2	ITC–3	ITC–4	ITC–5	ITC–6
Motor(kW)	4–7.5	7.5–15	15–30	22–45	30–55	45–75	75–110
Fineness(d97: um)	2–150	3–150	3–150	5–150	7–150	12–150	20–150
Throughput (ton / hour)	0.1–1.2	0.4–4.5	0.6–7	1.5–13	3–19	6–35	10–50

Note: the throughput or production capacity depends heavily on raw material fineness, density, moisture and flow–ability. The data above is just for your reference.

Air Classifier ITC-R

Air Classifier ITC-R is an air-flow external-recirculation classifier, also called "Triple-Stream Classifier", "Multi-Cyclone Classifier", designed for high fines yield between 20micron and 250micron at low energy consumption. Its handling capacity can be 10 t/h – 200 t/h by its different models. It does not require external powder filter collector to complete the powder classification process. Low-wear design is available for abrasive powder processing (Mohs hardness 6-8).

• Features:
- wide fineness range
- high fines output rate
- low pressure drop
- low specific energy consumption
- low fines circulation rate
- small space requirement for installation
- low maintenance
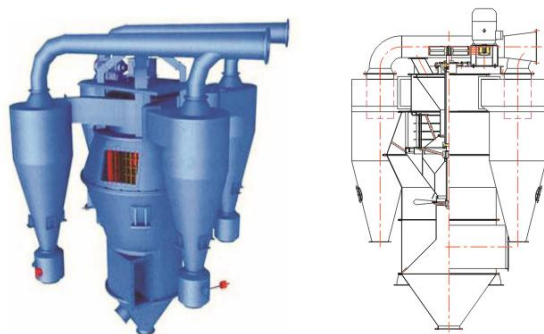
Air Classifier CTC

Air Classifier CTC is an air-flow internal-recirculation centrifugal classifier, also called "Coarse Powder Classifier", "Dedusting Classifier", designed for high powder yield between 20micron and 200micron at low energy consumption. Its handling capacity can be 2 t/h – 80 t/h by its different models. We have 2 designs: with internal fan & without internal fan. It does not require external powder filter collector & suction fan to complete the powder classification process. It is used to produce fine powder product, and also is used for dedusting of sand product. Low-wear design is available for abrasive powder processing (Mohs hardness 6-8).

• Features:
- wide fineness range
- simple setting of product fineness
- high fines output rate
- low specific energy consumption
- low fines circulation rate
- small space requirement for installation, simple erection
- low maintenance
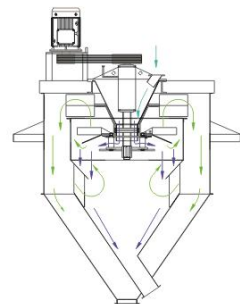
Jet Mill MQW

• Fluidized Bed opposed Jet Mill MQW

Jet mill consists of fluid bed opposed jet mill with integrated turbo classifier(s) for highest applications with best top cut and steep particle size distribution. The classifier rotor is horizontally installed. Better in the control of oversize particles.

• Technical Data

Model	MQW03	MQW06	MQW10	MQW20	MQW40	MQW60	MQW120	MQW160
Feed Size(mm)	<3	<3	<3	<3	<3	<3	<3	<3
Product Fineness(d97:um)	2–45	2–45	2–45	3–45	3–45	3–45	3–45	3–45
Output(kg/h)	2–30	30–200	50–500	100–1000	200–2500	500–3500	800–7500	1000–10000
Air Consumption (m³/min)	3	6	10	20	40	60	120	160
Air Pressure(MPa)	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85
Installation Power(kW)	21.8	42.5	85	147	282	415	800	1100

Note:
Data of production capacity and product fineness in this sheet are just for your reference. Different materials have different characteristics, and then one model of jet mill will give different production performance for different material. Please contact me for tailored technical proposal or trials with your material.
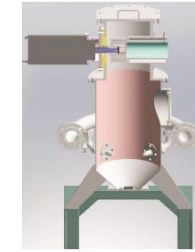
Jet Mill MQL

• Fluidized Bed opposed Jet Mill MQL

Jet mill consists of fluid bed opposed jet mill with integrated turbo classifier(s) for highest applications with best top cut and steep particle size distribution. The classifier rotor is vertically installed.

There are various functions as mainly:
grinding
classifying
homogenization and mixing
selective operation
drying
surface treatment
and many others

• Application
- Abrasive products
- Sticky products
- Mineral fillers
- Ceramic fillers
- Food
- Chemical productsand
  other powders

• Features
- Fluid bed opposed jet principle
- Integrated turbo classifier as single
  wheel or multi-wheel
- Products free of oversize
- Steep particle size distribution
- Multifunction
- Special nozzle configuration
- Los in weight system
- Laboratory system available
- Cryogen, inert, hot gas solutions

• Technical Data

Model	MQL03	MQL06	MQL10	MQL20	MQL40	MQL60	MQL80
Feed Size(mm)	<3	<3	<3	<3	<3	<3	<3
Product Fineness(d97:um)	8–150	8–150	8–150	8–150	10–150	10–150	10–150
Output(kg/h)	5–100	10–200	20–400	50–800	150–1500	300–2000	400–6000
Air Consumption (m³/min)	3	6	10	20	40	60	80
Air Pressure(MPa)	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85	0.6–0.85
Installation Power(kW)	26–37	47–68	68–106	145–184	276–310	402–427	520–600

Note:
Data of production capacity and product fineness in this sheet are just for your reference. Different materials have different characteristics, and then one model of jet mill will give different production performance for different material. Please contact me for tailored technical proposal or trials with your material.

Jet Mill MQP

• Spiral Jet Mill

Spiral Jet Mill is a jet mil (fluid energy mill) employing compressed air or gas to produce particles less than one micron. Inside the milling area, precisely aligned jets create a vortex. Material is fed into this vortex along an engineered tangent circle and accelerates. High-speed rotation subjects material to particle-on-particle impact reduction. Centrifugal force holds larger particles in the grinding area while centripetal force drives preselected sized fines toward the center for discharge. Spiral jet mills meet a variety of material and output specifications. The typical feed size is 100 mesh or finer. The product size ranges from sub-micron to 44 microns. Capabilities range from 0.25 to 5,000 Kgs per hour. Spiral jet mills may be operated using compressed air, steam or inert gases.
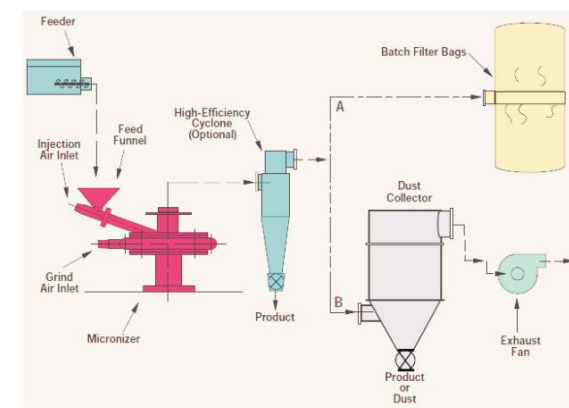
• Applications
- Agricultural chemicals
- Carbon black
- Ceramics
- Pharmaceuticals, cosmetics
- Pigments
- Precious metals
- Propellants
- Resins
- Titanium dioxide
- Toner

• Features
- Simple, straightforward design with no
  moving parts
- Engineered for easy dismantle and clean,
  easy access and maintenance
- Efficient, effective one-step grinding and
  classifying operation
- No heat from grinding
- No media contamination
- No lubricant contamination
- Variety of available liners to prevent
  contamination and resist abrasion
- Models for sanitary/ pharmaceutical
  applications available.

Impact Mill

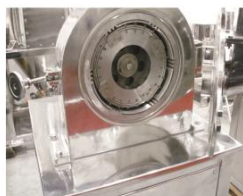### • Impact Mills / Universal Mills MJL

We have developed various types of impact mills. They have been used for so many different materials in so many industries, and then they are also called Universal Mill.

Depending on the application and product, the mill is equipped with differing rotor and stator variations and can be operated as any of the following mill types: Pin Mill, Blast Mill and Hammer Mill.

• MJL-P: Pin Mill   • MJL-B: Blast Mill   • MJL-H: Hammer Mill

• Technical Data

Mill Type		200	300	400	500	600	800	1000	1250
MJL-P	Rotor Diameter(mm)	160	260	360	520	630	730/800	1000	1250
	Motor (kW)	4/5.5	7.5/11	22/37	37/45	55/75	75/90	110/132	200/250
MJL-B	Rotor Diameter(mm)	150	250	350	500	600	720	1000	1250
	Motor (kW)	2.2/4	5.5/18.5	7.5/22	11/37	15/75	30/90	55/110	75/200
MJL-H	Rotor Diameter(mm)	150	300	400	500	600	800	1000	600
	Motor (kW)	2.2/4	5.5/11	7.5/22	11/37	15/45	22/55	37/75	90/110
Capacity Factor		0.4	1	2	3	6	7.5	9	11

Note：The data in this list are just for your reference. Please contact us, and we will make tailored design for your specific situation.

Turbo Mill

• Turbo Mill/Whirl Mill

As already shown in the name of this mill the principle of grinding is the impact force. The Turbo Whirl Mill is an ideal combination of impact- and fluidized bed mill for grinding, homogenisation, deagglomeration and coating. Thanks to their screw-less fixing, the beaters can be replaced quickly and easily. The rotor's beater equipment can be flexibly modified with regard to the relevant grinding and product demands. The possibility to operate the beater in both clockwise and counter clockwise direction increases the beater's lifetime.

• Application
- Mineral fillers
- Ceramic fillers
- Animal food
- Chemical products
- Food
- Surface treatment, coating

• Features
- For soft to medium hard products
- Absence of metallic contamination
- For fibrous products especially
- Pressure shock proof design
- Low energy consumption
- Step particle size distribution
- Easy adjustment
- Part wise no classifier needed

• Technical Data

Model	Rotor Dia.(mm)	Motor(kW)	Rotation Speed (Max r/min)	Air Flow (m³/h)	Output Size (micron)	Output (kg/h)
RTM−300H	300	18.5~22	7550	1600	5~250	30~800
RTM−500H	500	45	4700	2400		80~2000
RTM−750V	750	55~75	3000	3600		100~3000
RTM−1000V	1000	90~110	2250	4800		200~4500
RTM−1250V	1250	110~132	1800	6000		300~6000

Model	Rotor Dia.(mm)	Motor(kW)	Rotation Speed (Max r/min)	Air Flow (m³/h)	Output Size (micron)	Output (kg/h)
LGM−400	360	30~37	4600	1200	15~250	30~800
LGM−600	540	45~55	3050	2000		80~2000
LGM−800	730	75~90	2100	3000		100~3000
LGM−1200	1130	110~132	1480	7500		200~4500

Note: The data sheet above is just for your reference. Please contact us for the detail brochure to know more about our different Turbo Mills.

Air Classifying Mill

Air Classifying Mill is an air swept mechanical impact mill with an integral air classifier. Because of their extensive application, Air Classifying Mills are the mostly considered mills for various powder micronization and disagglomeration. In most cases, they demand much lower energy consumption but give much higher production efficiency than other mills. We have developed full ranges of air classifier mills, MJW-L series, MJW-W series and MJL-W series.
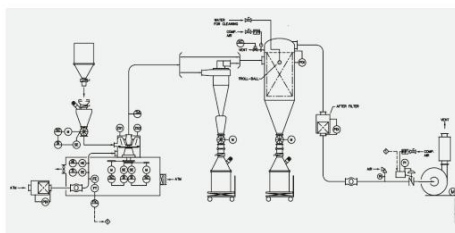
• Operation Principle

- Feed material entering through the inlet duct is introduced to the first stage grinding area.
- Particles are classified by the interaction between centripetal force and air drag force within the forced vortex created by the classifier rotor.
- Product size is determined mainly by control of the classifier rotor speed.
- Particles below cut size pass through the classifier rotor and exit with the entraining air through duct.
- Coarse particles above the cut point are rejected by the rotor and directed to the second stage grinding area for further size reduction.
- A secondary air inlet in the casing allows control of the classifier air flow.
- A specially designed exit port enables excess ungrounded impurities to be rejected from the unit during operation.

• Technical Data

Model		300	350	400	500	700	800	900	1000	1100	1200	1300
Grinding	Beater Diameter (mm)	280	340	410	510	710	760	900	1000	1100	1200	1300
	Grinding Motor (kW)	7.5	11~15	22	30	45	55	75~90	90	110~132	132~160	200
Classifying	Classifying Motor (kW)	2.2/4	3	4/5.5	5.5/7.5	7.5/15	7.5/15	15	15/22	22	30	37
Air Volume (m³/h. max)		700	900	1600	3000	4500	5400	8000	10000	12000	14000	16500
Scale-up Factor		0.3	0.7	1	1.4	2.2	2.5	4	4.5	6	7	10

Note: The data sheet above is just for your reference. Please contact us for the detail brochure to know more about our different Air Classifying Mills.

Air Classifying Mill

• Features

- Grinding and classifying in one machine
- Steep particle size distribution
- Sharp classifier cut point, instantly adjustable
- Low specific energy requirements
- Compact space saving design
- Economical, efficient recovery of fine powders
- Particle size readily adjustable without shutdown
- Simple to clean, maintain and operate
- Low grinding temperature
- Efficient transportation of ground material from grinding rotor to separating element
- Oversize material rejected back to grinding rotor
- Precision manufacturing
- Wide model range for broad application considerations

• Application

- Powder coatings
- Non-metallic minerals
- Agricultural chemicals
- Chemical products
- Fillers
- Food products
- Animal feed
- Cosmetics
- Pharmaceuticals

• Special Applications

- Closed loop systems for grinding in controlled atmosphere, I. e., inert gas, refrigerated air, ultra-dry air
- Pressure-shock-resistant designed systems for intrinsically safe reduction of explosive materials
- Abrasion-resistant designs for handling a variety of minerals
- "Cool" operation is well-suited for heat-sensitive products and other special applications
- Special designs and finishes for food and pharmaceutical applications
- High-temperature design for flash drying/grinding systems

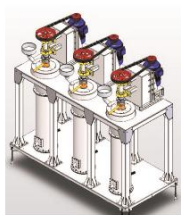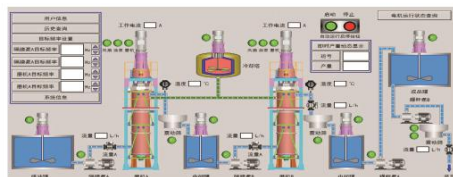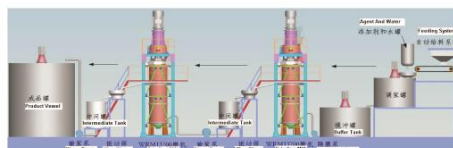| MATERIAL	FEED SIZE	END FINENESS	RATE (lbs./hr./hp)
Cane Sugar	Nominal 20 Mesh	96% <200 Mesh (10X)	110
Cane Sugar	Nominal 20 Mesh	98% <325 Mesh (fondant)	75
Hydrous Kaolin	Nominal 325 Mesh	6.5 hegman	40
Calcined Kaolin	Nominal 325 Mesh	6 hegman	28
Talc	Nominal 80 Mesh	99% <325 Mesh	45
Soya Flake	1/4" - 0	98% <80 Mesh	70
Hydrated Lime	Nominal 80 Mesh	97% <25 Microns	25
Limestone (soft)	1/4" - 0	97% <20 Microns	15
Milk Crumb	Nominal 20 Mesh	99% <400 Mesh	25
Magnesium Oxide	Nominal 40 Mesh	99% <325 Mesh	50
Cocoa Press Cake (10–12% butter fat)	65% <100 Mesh	99% <200 Mesh	75
Phenolic Resin	1/2" - 0	97% <200 Mesh	70
Zinc Sterate	1/8" Flakes	97% <38 Microns	15
Xanthan Gum	Nominal 1/8"	97% <44 Microns	17
Whole Kernel Corn	Nominal 3/8"	99% <30 Mesh	22.5
Barium Sulfate	Nominal 60µ	97% <14 Microns	20
Carbon Black	900 PPM> 44µ	10–25 PPM> 44 Microns	54

Wet Stirred Bead Mill

For product fineness down to 98 % < 2μm, Wet Stir Mill Systems are the best choice. Dry grinding systems are not able to achieve this product fineness with economical energy efficiency.

• Applications
- Mineral
- Chemicals
- Ceramic material

• Features
- Vertical shaft mill
- Disc agitation principle
- No cooling of the housing necessary
- Efficient grinding
- Low wear
- Low maintenance costs
- Easy change of single agitators
- Part wise change of wear parts possible
- Slow and homogeneous flow of suspension through the mill
- Low energy consumption
- Low amount of grinding media
- Homogeneous particle size distribution
- Accurate top cut
- Complete process can be provided

De-agglomeration Pulverizer DDP

It combines drying, de-agglomeration and pulverizing technology in one piece of equipment. With hot air flow, it makes it suitable for drying numerous different materials with a wide range of different properties. It can be used to achieve different fineness varying from 45 μm down to 2 μm.
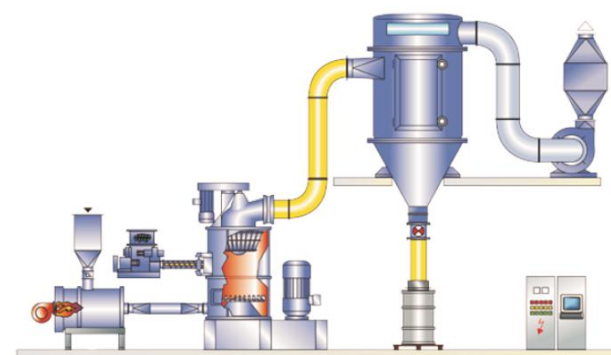
It is ideal for Suspensions, Slurry, Pastes & dough, Filter cakes, Wet powders. For example, ultrafine calcined kaolin, nano calcium carbonate (NPPC).

Flash De-agglomeration Dryer FDD

It combines drying, de-agglomeration, milling and classifying technology in one piece of equipment
Its unique design makes it suitable for drying numerous different materials with a wide range of different properties. It can handle fluctuating moisture content from a few per cent to more than 80%. Moreover, it can be used to achieve different fineness varying from 250 μm down to 1 μm in the case of wet milling, depending on the upstream process.

It is ideal for Suspensions, Slurry, Pastes & dough, Filter cakes, Wet powders.

• Technical Data

Model	WR1500	WR4000	WR500X3	WR1500X3	WR4000X3	WR6000PX2	WR6000PX3
Mill Motor(kW)	160kW	250kW	45kW*3	160kW*3	250kW*3	355kW*2	355kW*3
Product Fineness (Slurry Product)	D90: 2um	D90: 2um	D98: 2um	D98: 2um	D98: 2um	D90: 2um	D98: 2um
Milling Capacity (Solid Weight)	0.8MT/h	2MT/h	0.5MT/h	1.2MT/h	2.5MT/h	3.5MT/h	2.8MT/h

Note:
1. the data of production capacity is based on ground calcium carbonate.
2. the feed size of raw material should be at least d98: 45micron.
3. we have other models Ws300, WS300X3, Ws500, Ws1000, and WS1000X3, and would offer tailored project design according to your requirement about product fineness and production capacity.

Particle Surface Coating Technology

• General Introduction

We have developed 3 different continuous surface treatment systems/ coating systems on the base of successful experience of Hosokawa Alpine and Omya Group, pin mill coating machine, turbo mill coating machine, rotor mill coating machine.

This continuous powder surface coating system is designed on the base of German know how with Chinese equipment, and can be used for coating of various powders like calcium carbonate (GCC, PCC), kaolin, talc, mica, graphite, barium sulfate, white carbon black, magnesium hydrate, zinc oxide, aluminium oxide, and is suitable for a variety of solid/liquid coating agents, like aluminate coupling agent, titanate coupling agent, silane coupling agent and stearic acid.

• Pin Mill Coating System
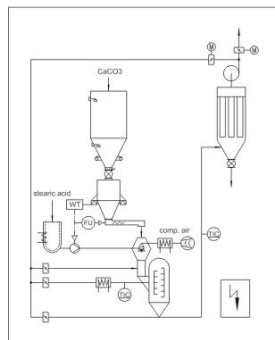
• Process Flow

The uncoated powder will be fed into the system by dosing screw, and then heated by heating screw. The coating agent will be fed into the melting tank by dosing screw, and after melted into liquid will be pumped into the pin mill. The heated powder and coating agent will be pre-mixed in the bin by high-pressure air flow, and then go into the pin mill. The powder will be coated under the high-speed rotation of double pin discs. The coated powder will be collected by bag filter, and then conveyed into the product silo by pneumatic conveyor.


Particle Surface Coating Technology

Surface-treated limestone powder - generally called "coated limestone powder" - is used as a filler in the production of PVC as well as other plastics. Limestone or ground calcium carbonate (GCC) with a fineness of d97: 45micron to 3micron as well as precipitated calcium carbonate (PCC) of d50 < 0.1micron are mainly used.

The most important target with this process is a uniform and complete distribution of the coating agent in the limestone powder. The proportion of coating agent is only 0.4- 1.5% by weight for GCC and up to 5% weight for PCC. And in order to uniformly supply this small quantity to the large amount of limestone, the coating agent is melted and then mixed with the limestone powder. Natural or synthetic max (eg. Stearic acid) is predominantly used as a coating agent.

• Turbo Mill Coating System

• Rotor Mill Coating System

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COATED LIMESTONE
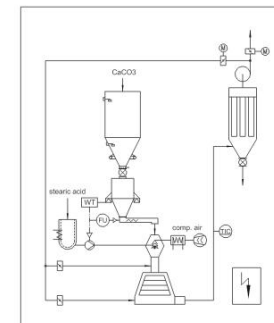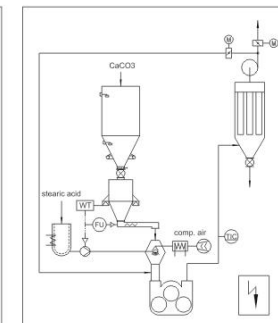
Project Supply

We are not only able to supply the first-class machines, but also provide tailored designs of machines to meet the customers' production requirements. In most cases, what we supply to our customers is not a single machine, but a process solution, a complete project, or a complete set of production line as part of a big project. We set our position as a project supplier, not just a machine manufacturer. We have a substantial test database with over 5,000 test reports of over 1,000 different materials from Mineral industries, Chemical industries, Food and Agriculture industries, Pharma industries and others.
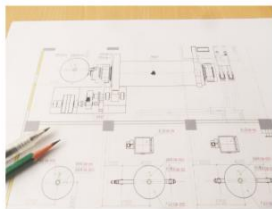
• Project Definition

We will work closely with you to define the feasibility and scope of any project, helping you to understand what's possible and to find the best solutions to meet your objectives.

- Feasibility and concept study
- Cost and profitability calculations
- Timescale and resource planning
- Turnkey solution, plant upgrade and modernization solutions

• Project Design

Our engineers help to develp innovative and efficient processes that give you a competitive edge and efficient, reliable and predictable manufacturing.

- Knowledgable engineers
- Using the latest technologies
- Exploiting the knowledge gained from hundredsof applications across any industries
- Leverage expertise from our experienced engineers and partners

• Plant Engineering

Whether it is a turnkey solution you need or help on a particular aspect of the plant engineering, we have the know-how.

- Plant design
- Process monitoring, control and automation
- Software development and real time application programming
- Mechnical engineering
- Machinery and vessel manufacturing

• Project Management

From start to finish, you can reply on our professional and exacting project management.

- Project plannning
- Construction site supervision and management
- Installation and testing of instrumentation and control systsems
- Machinery and plant commissioining
- Employee training
- Support throughout production
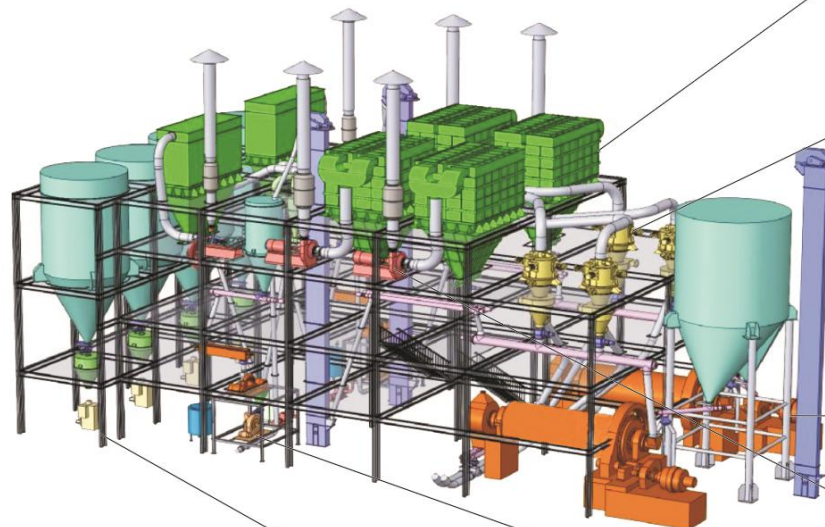
Project Supply

• Fine CaCO3 Powder Project
- Product target: d97:5-20micron
- Production capacity:100,000 tons/year
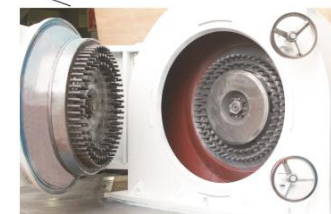- Plant space: length 45m, width 26m, height 24m

Dedusting Filter

Multi-wheel Classifier

Ball Mill

Suction Fan

Powder Packing Machine

Pin-Mill Coating Machine

Project Supply

We have paid a lot of attention to following special areas, achieved great technology developpment and accumulated abundant experience.

1. Mineral Powder Processing System

Mineral powder processing technology is one of the main development directions of our company. We have developed different solutions for different applications, the ball mill + classifier system, vertical mill + classifier system, air classifier mill system, jet mill system, wet milling + drying system, etc, which can be used for calcium carbonate (marble, limestone, calite), silica/quartz, feldspar, zirconia, zircon sand (zirconium silicate), barite, kaolin, dolomite, talc, mica, magnetite, graphite, gympsum, etc.
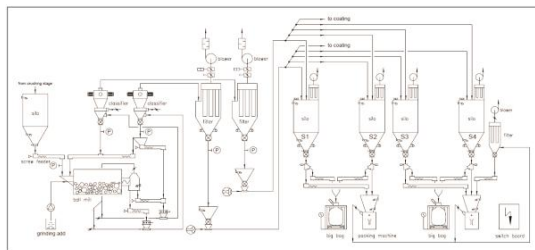
2. Inert Gas Protection Powder Processing System

The whole process is under the environment of inert gas. The system works by PLC automatic control. The oxygen content, pressure and temperature inside of the machine would be tested in line and reported regularly.

This solution works well for the processing of flammable, explosive and easily oxidative materials, and has been widely used in the metal industry, rare earth industry, chemical industry, pharmacy industry, etc.

3. Low-Temperature Powder Processing System

The gas is cooled down to low temperature and conveyed into the processing system. The system can be a closed circuit or open type.

This solution is applicable to these materials that not be pulverized in room temperature or thermal-sensitive, also for these materials with high flexibility or high stickiness or strong fibrous content.

4. Particle Shape Modification System

The shape difference of fine particles would affect their performance. For some material, the shape is the most important factor, like graphite and quartz.

We have carried out a lot of testing together with our customers and developed efficient process to achieve expected particle shape.

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5. Particle Surface Treatment System

Surface Treatment System is required mainly for mineral powders and chemical powders, and is also known as Surface Coating System.

We have developed 3 types of different coating processes to satisfy different production requirement.

6. Solid Waste Recycling System

Solid waste recycling has been popular for years. Since there are more and more waste from our society, to make successful waste recycling does not only solve this problem, but also give us a lot of business opportunities.

We have good experience in the recycling of waste tyres, rubber, plastics, household applicances and PCB.