



Guangdong Wijay Material Automation System Co., Ltd

Chemical Industry

Wijay Public Account



Wijay wechat video number



Headquarters building: No.41, International Financial Innovation Park, Songshan Lake, Dongguan City, Guangdong Province
Hong kong office address: Room 1911, Lee Garden One, 33 Hysan Avenue, Causeway Bay, Hong Kong
European Office Address: 8 C Groenichana Avenue, Ploologis District, Wroclaw City, Poland
R & D center address: Building 31, 6th Floor, International Financial Innovation Park, Songshan Lake, Dongguan City, Guangdong Province
Dongguan Production base: No. 1, Zhushan Zhuyuan Road, Dalang Town, Dongguan City, Guangdong Province
Hunan production base: No. 46 Furong Road, Xinhua Development Zone, Zhenxiang district, Hengyang City, Hunan Province
HTTP: www.wijaygroup.com MAIL: wijay@wijaygroup.com TEL: 0769-22505696 83280060

Design for your needs!

Guangdong Wijay Material Automation System Co., Ltd.

Welcome to Wijay Material Automation System Co., Ltd., a leading high-tech enterprise specializing in material automation and central feeding systems. With over 12 years of experience, we have a proven track record in planning and constructing production lines for industries such as food, plastics, chemicals, and green energy.

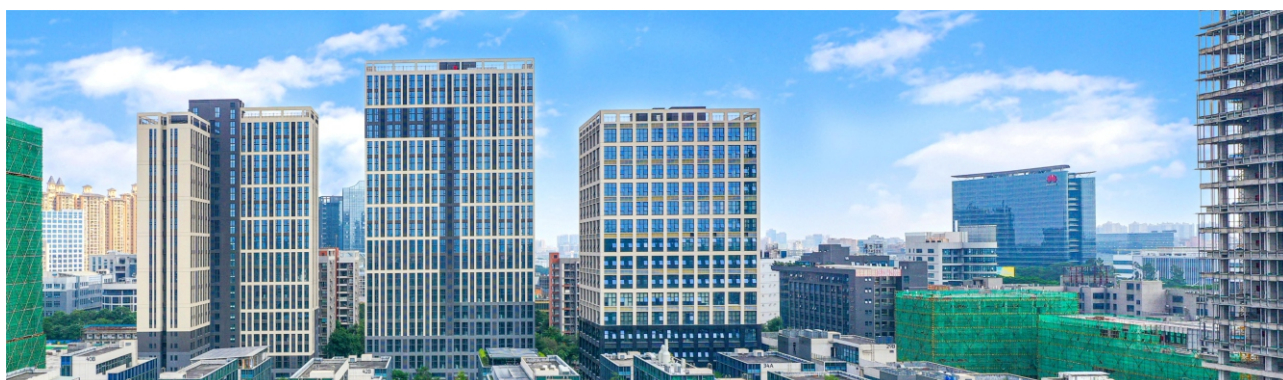
Our headquarters, located in the International Financial Innovation Park in Songshan Lake, Dongguan City, Guangdong Province, house a state-of-the-art 2,000m² technology R&D center and a production base spanning over 40,000 square meters.

Adhering to the design philosophy of “Minimalist Design, Extreme Reliability,” Wijay provides comprehensive services—from production line planning and whole-plant automation system design to equipment R&D, core component manufacturing, and full production line installation and commissioning.

The company has independently developed more than 100 patented inventions and software copyrights, and holds certifications including ISO 9001, ISO 14001, and Intellectual Property Management System. In collaboration with Zhejiang University of Technology, Wijay continues to drive innovation in the field.

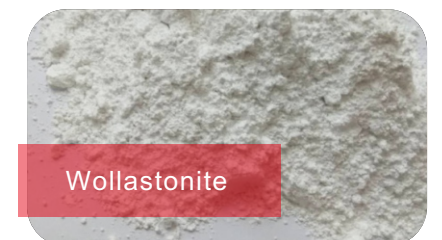
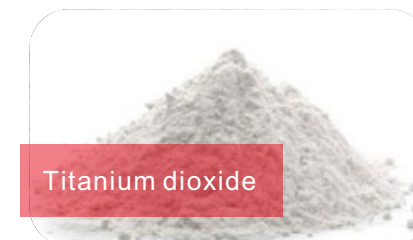
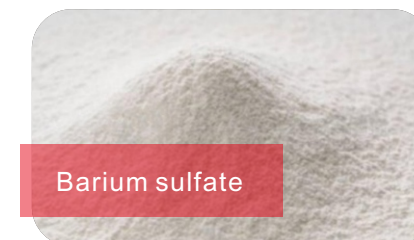
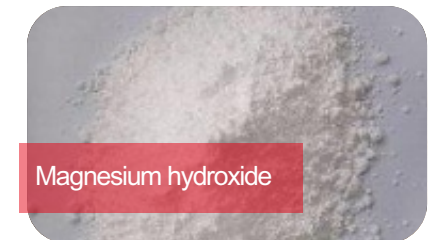
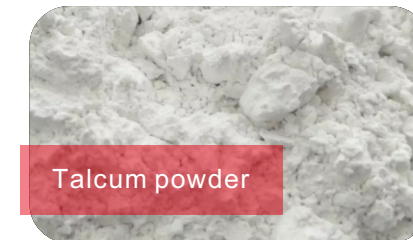
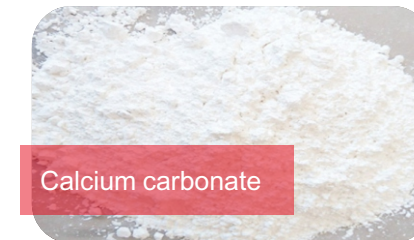
According to the “2022–2028 Global and China Automatic Central Feeding System Market Report” by QYR Research, Wijay ranks among the top global manufacturers of central feeding systems. In 2022, the Guangdong Electronic Information Industry Association reported that Wijay holds a 15.2% market share in China’s material automation systems sector, reflecting the company’s high visibility and influence both globally and domestically.

Choose Wijay for cutting-edge material automation and central feeding systems designed to drive success in your industry.



Common items

Wijay's professional team will tailor solutions according to customer needs to meet the special requirements of different industries.



Core Business

The business of Wijay is mainly involved in the automation process of powder particles, granules, and fluids. Powder and granule processing systems typically include equipment for unpacking, feeding, warehousing, unloading, grinding, screening, drying, metal detection, transportation, and metering. Fluid material systems typically include equipment for tank entry, storage, discharge, filtration, mixing, homogenization, metal detection, temperature regulation, transportation, and metering.

Most of the clients served by Wijay are globally renowned top enterprises. The solutions provided by Wijay are of excellent quality and highly reliable, ensuring both cost and quality advantages of your products.

As a pioneer in the Chinese automation industry, Wijay has developed into a privately owned enterprise that integrates research and development, design, manufacturing (core components), trade, and engineering services. Wijay utilizes advanced technology to help clients across the country achieve innovative projects and makes a commitment to “appropriate design” and ensuring a “stable system” for every WIJAY solution.

OUR HISTORY



Wijay has obtained the certificate of Advanced Technology Service Enterprise and starts to cooperate with famous companies such as Nestlé China.

2012



Wijay Company was established, focusing on material automation systems in large factories, and producing for well-known enterprises such as Hsu Fu Chi Group and Garden.

2013



Wijay has been awarded the title of Independent Innovation Advanced Enterprise and has started collaborating with well-known dairy companies such as Yili, occupying a leading position in the food material automation system industry.

2014



Wijay established its own research and development center. And cooperates with BinQi Foods to build a high standard demonstration factory.

2015



Wijay has set up WIYI, which is committed to the research and development of intelligent fluid conveying, recycling, cleaning, and other equipment systems. WIYI has formed strategic collaboration with Wijay and Wijay Hybrid. These three companies, can not only independently undertake engineering projects in their respective fields, but also collaborate to provide complete engineering solutions.

2016



Wijay has set up a mixing technology company, which is committed to the research and development of efficient and stable mixing, homogenization and kneading technologies, forming strategic coordination with Wijay's material automation, and providing a fully automated information mixing solution that fully integrates the material automation system and the mixing equipment system.

2017



Wijay opened its new headquarters in the Songshan Lake hi-tech district of Dongguan and began to develop and manufacture patented models, standard products, and systems.

2018



Wijay set up a Hong Kong company to expand overseas business and has successfully cooperated with the Futong Group to build the Industry 4.0 material automation system for the world's largest optical fiber and cable production base. It has achieved a leading position in the petrochemical industry, the lithium battery industry, and the new material industry.

2019



Wijay purchased a 2000m² office building to expand its headquarters and has established a research and development center that includes a hybrid-technology, engineering safety and explosion testing, crush-testing, transportation-technology testing, fluid-technology, electrical-engineering, factory-software and information-technology research departments, producing more than 50 patents and inventions.

2020



Wijay becomes active in the international market. The Wijay Group Company, located in Wanchai, Hong Kong, is responsible for the development of Wijay's international business and group affairs management. Wijay's products are popular domestically and abroad.

2021



As a gazelle enterprise. Wijay has continued to innovate, starting a cooperation with Zhejiang University of Technology in production, education, and research, and successfully cooperating with the Country Garden Group and other global Top 500 companies. The market share in China in the material automation system industry has reached to 15.2%.

2022



Wijay is establishing long-term cooperative relationships with well-known listed companies in the green energy industry, such as BTR, Dynanonic, SUNSTONE, BRUNP, Shanshan, etc.

2023



Wijay – 13 years specializing in R&D and manufacturing of material automation systems, with deep industry expertise. In early 2025, we expanded our Dalang production base, leveraging independent R&D to deliver more efficient and reliable automation equipment, helping customers enhance productivity and quality.

2024



Wijay has conducted a comprehensive expansion and upgrade of production facilities, expanding its factory's area size, enriching the variety of production equipment, achieving a breakthrough in production scale, comprehensively driving the advancement and transformation of the company's productivity, leading to a significant surge in sales volume.

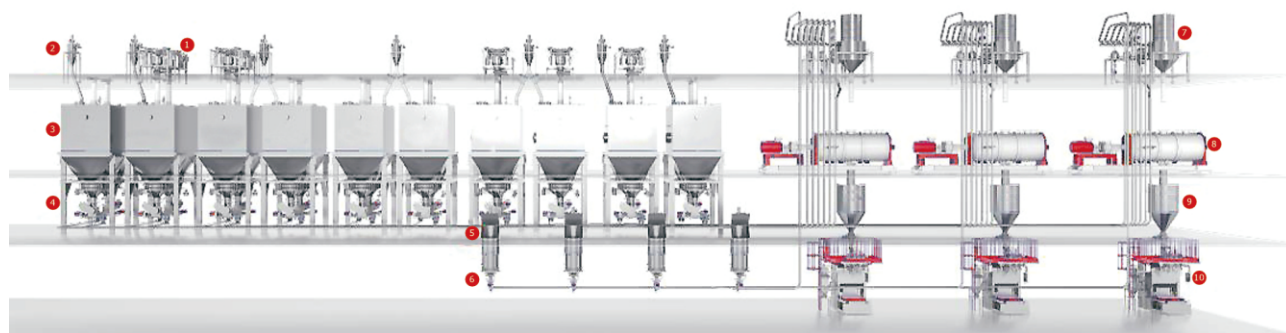
2025

Chemical raw materials

Petrochemicals | Fine Chemicals | Chemical Resists | Industrial Ceramic Powders | Inorganic Materials



In view of the different characteristics of materials often encountered in the chemical industry, Wijay carries out specific conveying optimization design for each project, providing chemical companies with a full set of automation solutions for unpacking and feeding of chemical raw materials, storage and arch breaking, pneumatic conveying, grinding and screening, metering and batching, automatic packaging, etc., to meet the production needs of various chemical companies.



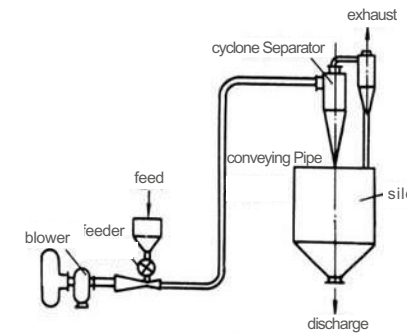
- | | | | | |
|-----------------------------|--|-----------|---------------------|---------------------------|
| ① Ton bag unpacking station | ② Dust collector | ③ Storage | ④ Activation hopper | ⑤ Pouch Unpacking Station |
| ⑥ Screw Feeder | ⑦ Multi-component suction weighing scale | ⑧ Blender | ⑨ Temporary storage | ⑩ Packing Machine |

System Features

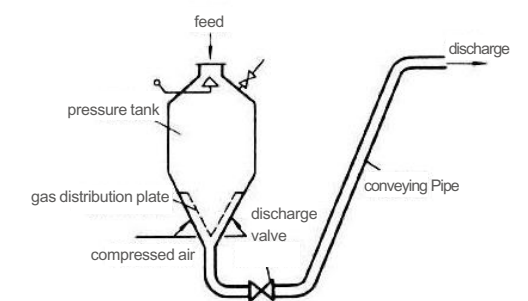
- Noise reduction and dust removal meet environmental protection requirements
- The entire production process is traceable
- High degree of automation, reducing labor intensity
- Precise parameter design to meet the production needs of multiple materials
- Accurate and reliable measurement improves product performance
- The small ingredient batching system can meet customers' small-scale, customized and refined needs.
- Safety, environmental protection, explosion-proof design, eliminating the discharge of toxic materials

Issues that need attention in pneumatic conveying of chemical powders

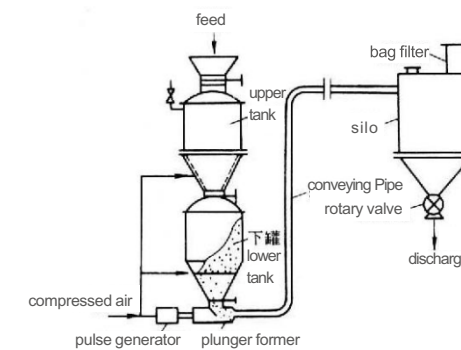
The chemical industry is an industry that involves a lot of pneumatic conveying. pipeline material transportation is an important kind of logistics, and pneumatic conveying is the method used by most people.



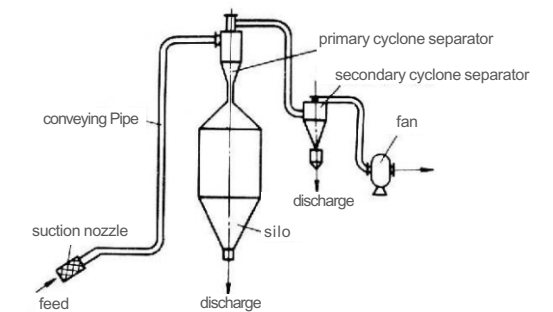
Pressure-feed dilute phase conveying



Intermittent air filling tank type dense phase conveying



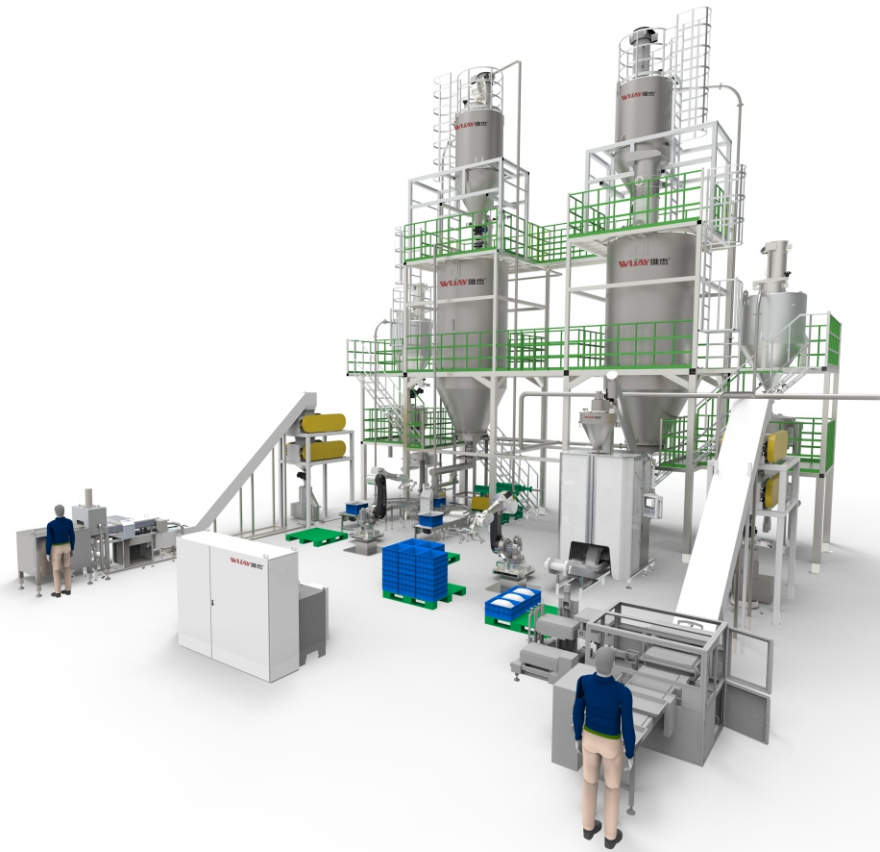
Pulse dense phase conveying



Suction dilute phase conveying

- Issues that must be paid attention to in pneumatic conveying of chemical materials:
- Prevent foreign matter from entering the pneumatic conveying system and contaminating materials. Air purification is required, and the water, oil and dust content in the compressed air must be controlled within a certain range.
- To prevent rust and iron from mixing in, a magnetic iron remover should be installed at the material inlet. The conveying pipe should be made of stainless steel pipe or hotel. If the process allows, the ordinary steel pipe must be treated with surface rust removal.
- Prevent material from breaking, abrasion and deformation during transportation. Pneumatic conveying should adopt low-pressure and low-speed dense phase conveying as much as possible to ensure the performance of the material.
- To ensure the safety of flammable and explosive materials, it is advisable to use inert gas circulation for transportation. For materials with strong hygroscopicity, a refrigerated dryer and air filter can be used, and the gas source can be used after treatment.
- For materials and chemicals with static electricity, attention must be paid to the pneumatic conveying components during installation. The conveying pipe, storage hopper, dust collector, etc. must be grounded, and the dust collector filter material must be made of anti-static material and corresponding measures must be taken.

Material Handling System of an Internationally Well-known Enterprise in Jiangmen



The customer is one of China's largest and most well-established vape manufacturers, boasting over a decade of experience in the industry. Its product portfolio covers a wide range of vaping products, including e-cigarettes, vape pods, and vape tanks.

To support the customer's production needs for new electronic materials, Wijay has designed and built multiple fully automated production lines, which boast a total daily capacity of 60 tons. These production lines integrate a complete set of processes, such as ingredient batching, mixing, sintering, crushing, conveying, storage, screening, secondary mixing, demagnetization, and packaging.

Thanks to the automated design, the number of operators required has been reduced from 25 to just 3, while the hourly output has increased significantly—from 300 kg to 900 kg. Moreover, the newly put-into-use production lines have greatly enhanced product stability, ensuring that the technical specifications of each batch remain consistent.

Notably, the project incorporates two key technological advantages of Wijay: first, its patented pneumatic mixing machine; second, a comprehensive design aimed at preventing the inclusion of metal foreign objects. These features have led to a substantial improvement in material properties, further consolidating the customer's leading position in the industry and significantly cutting down its production costs. Additionally, the project also adopts Wijay's innovatively designed integrated bagging and packaging machine, which achieves a packaging accuracy of better than 0.002% even during high-speed operation—setting a new technological benchmark for the entire industry.



Material Automation System for a Subsidiary of Xinyuehua Group



The customer is a listed company specializing in the production of basic chemicals, fine chemicals, and functional materials. Wijay designed and constructed a fully automated new materials production line for their headquarters located in Maoming, Guangdong. The materials transported in this line are hydrated lime and kaolin, with a total capacity of 36 tons per day.

Bulk materials are pneumatically conveyed from tank trucks to an 80 - cubic - meter outdoor bulk storage silo. The materials are then transferred from the silo to a weighing tank. The weighing tank measures the required materials based on the pre - set formula in the central control system, achieving fully automated material handling. This greatly reduces transportation and labor costs while enabling real - time monitoring of material usage. The dust emission concentration of the dust collector is $\leq 30\text{mg}/\text{Nm}^3$, and the noise level, when tested 1 meter away from the equipment, is below 80dB. The control logic is simple and user - friendly, ensuring smooth operation with a weighing error of less than 0.5%. The logical chain is well - established, guaranteeing safe operation.



Guangdong automated feeding system for green materials



Wijay's in-depth research on materials and extensive professional technical expertise have successfully addressed the technical challenges posed by urea granules' extreme hygroscopicity, caking tendency, and thermal sensitivity. The unique pneumatic conveying technology ensures highly efficient and stable operation of the entire system.

Urea granules, due to their strong hygroscopicity and tendency to cake, are prone to moisture absorption, hardening, and thermal degradation in traditional mechanical conveying systems. The industry commonly faces issues such as high conveying losses (approximately 6%-10%) and frequent system blockages. Wijay innovatively tackled these problems by implementing a closed-loop dry air system (dew point $\leq -35^{\circ}\text{C}$, humidity $\leq 8\%$) and nano-coating technology for pipelines, significantly reducing caking risks and decreasing adhesion rates by over 85%, effectively ensuring material stability.

By adopting low-pressure dilute-phase pneumatic conveying technology, the conveying air velocity is controlled below 18 m/s, while the material temperature is maintained at $\leq 40^{\circ}\text{C}$ throughout the process, greatly minimizing the loss of heat-sensitive components. Energy consumption is reduced by 25% compared to traditional systems. An intelligent AI monitoring system limits pipeline blockages to fewer than 1 occurrence per 1,000 operating hours, and modular design enables rapid maintenance within 10 minutes. The overall conveying efficiency has been enhanced to over 95%, helping enterprises reduce costs and improve productivity.



Automated Raw Material Processing System for Jiangsu Feed Industry



Wijay designed and built a fully automated production line for the global leader in the attapulgitite industry, covering the entire process from feeding, crushing, grinding, batching, mixing, to packaging. The system consists of four intelligent modules:

Raw Material Temporary Storage Module : Materials are conveyed via screw feeders to Raymond mills for grinding before being stored in finished product silos. Supports low-cost nighttime power operation, significantly reducing energy consumption.

Weighing & Batching Module : 8 auxiliary weighing tanks can flexibly match 2 main materials, enabling precise batching of 1-8 auxiliary ingredients. A re-weighing system ensures stability and accuracy.

Pneumatic Mixing Module : Equipped with dual pneumatic mixers, efficiently solving stratification issues with shorter mixing time and superior uniformity.

Automatic Packaging Module : Chute feeding and screw conveying seamlessly connect to fully automatic packaging machines, requiring zero manual intervention.

The production line achieves a capacity of 15 tons/hour, significantly improving efficiency compared to the customer's original setup. Integrated with an ERP system for real-time monitoring and data analytics, it optimizes production operations. With only 1-2 operators needed and a zero-material-handling design, the system reduces labor and costs, enabling highly efficient and intelligent production.



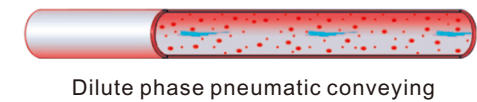
Feeding systems for the chemical industry

The feeding system can make the management of numerous materials easy and efficient

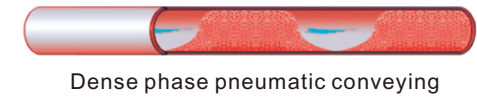


- Cost savings in labor and raw material expenses
- Maintenance of a clean and organized factory environment
- Ensured stability in material quality
- Traceability of raw material data
- Informatization of material management
- Seamless integration with ERP systems
- Establishment of a manufacturing execution system
- Implementation of Industry 4.0 principles

Common forms of pneumatic conveying



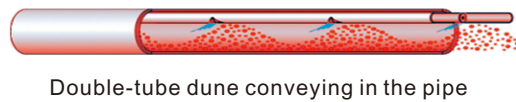
Dilute phase pneumatic conveying



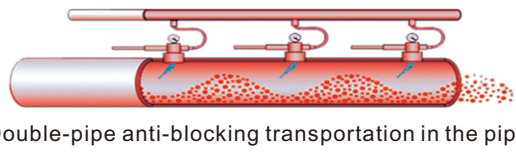
Dense phase pneumatic conveying



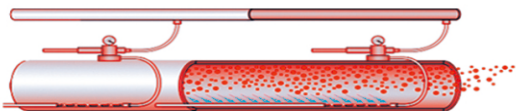
Pneumatic conveying of the intermediate phase



Double-tube dune conveying in the pipe



Double-pipe anti-blocking transportation in the pipe



Double-tube suspension transportation in the pipe

Characteristics and Recommendations of Different Conveying Systems

	Dilute Phase Convey	Dense Phase Convey	WIJAY Intermediate Phase Conveying	WIJAY Hydraulic Conveying
wind speed	v=25-40m/s	v=2-10m/s	v=15-25m/s	v=15-25m/s
phase density	1-10:1	15-60:1	5-25:1	1-2:1
Delivery pressure	0.1-1.0Barg	p=0.5-3.5Barg	p=0.5-2.5Barg	p=1-5Barg
The state of the material in the pipeline	suspended state	embolic state	suspended state but with high solid to gas ratio	suspended state

Recommended Methods for Conveying Technology

	Dilute Phase Convey	Dense Phase Convey	intermediate phase conveying	hydrauli cconveying
Conveying speed<20T/H Conveying distance<150M	★ ★	★ ★	★ ★ ★	★
Conveying speed<20T/H Conveying distance<150M	★ ★	★	★ ★ ★	★ ★
Conveying speed<20T/H Conveying distance<150M	★ ★	★	★ ★ ★	★ ★
Conveying speed<20T/H Conveying distance<150M	★ ★ ★		★ ★	★ ★ ★
General description	Low equipment investment cost, slightly higher operating costs, and lower technical difficulty; suitable for non-crushing materials.	High and low equipment investment costs, slightly higher operating costs, and slightly advanced technology; suitable for fragile and brittle materials. and fragile materials	Low equipment investment cost, low operating cost, high technical difficulty, and wide applicability.	Slightly high equipment investment cost, low operating costs, and high technical difficulty; especially suitable for materials that require cooling and cleaning.

Impact of Conveying Systems and Fittings on Dust Generation and Filament Formation

Comparison of Material Impact and Subsequent Handling by Conveying Systems

Types of Conveying	Dilute Phase Pneumatic Conveying	Dense Phase Pneumatic Conveying	Wijay Intermediate Phase Pneumatic Conveying	Wijay Hydraulic Conveying
Impact on Materials	1.Fine Powder 2.Coarse Powder 3.Long Filaments 4.Long Thin Films	1.Abundant Electrostatic Ultrafine Dust 2.Small Amount of Coarse Dust	1.Small Amount of Coarse Powder 2.Small Amount of Short Filaments	In Good Condition
Subsequent Handling Processes	1.Installation of Scrubbers 2.Installation of Filters	Installation of Scrubbers	Installation of Scrubbers	Requires Dehydration and Drying
Dust Content	High	Low	Low	None
Equipment Investment Cost	Low	High	Moderate	High

In addition to choosing suitable conveying systems, the following three aspects can be addressed in the system design process to reduce dust and filament formation.

Conveying Conditions

- Minimize the temperature of the raw material
- Minimize the temperature of the conveying gas
- Minimize the conveying speed
- Minimize the conveying pressure

System Design

- Improve the pipeline path
- Reduce the number of bends
- Select suitable pipeline materials and internal treatment solutions
- Avoid differences in pipeline sections

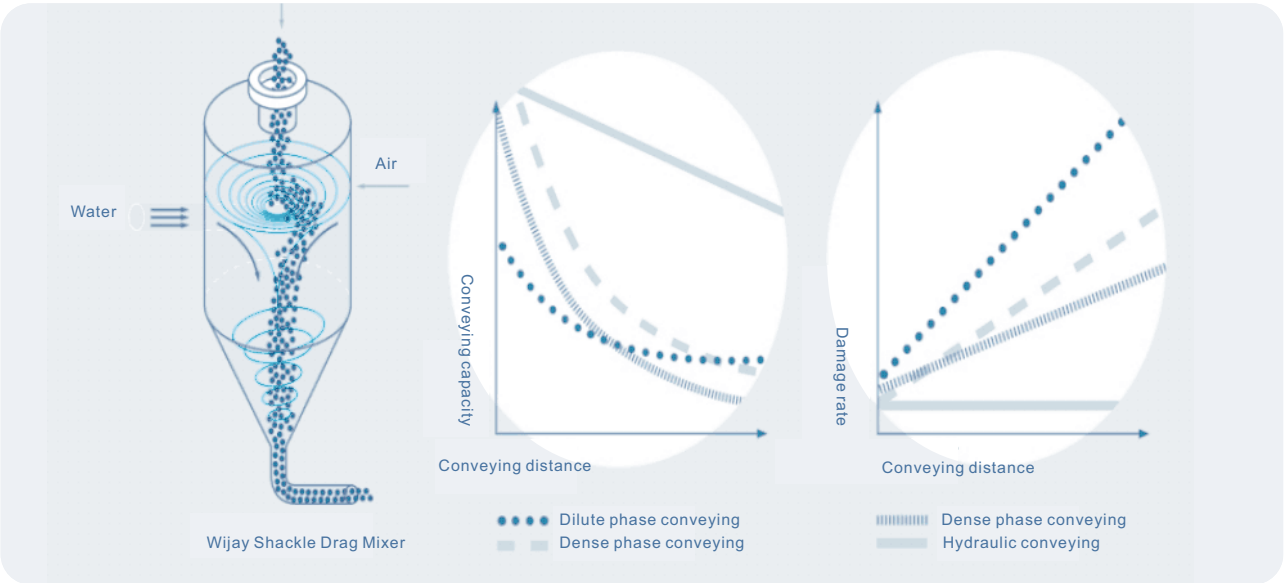
Damage caused by high-speed pneumatic conveying of solid materials

- Particle Materials: The faster the conveying speed, the more severe the particle breakage and wear.
- Plastic Granules: The faster the conveying speed, the higher the proportion of dust and filament formation
- Abrasive Materials: The faster the conveying speed, the higher the wear on the pipelines and equipment.



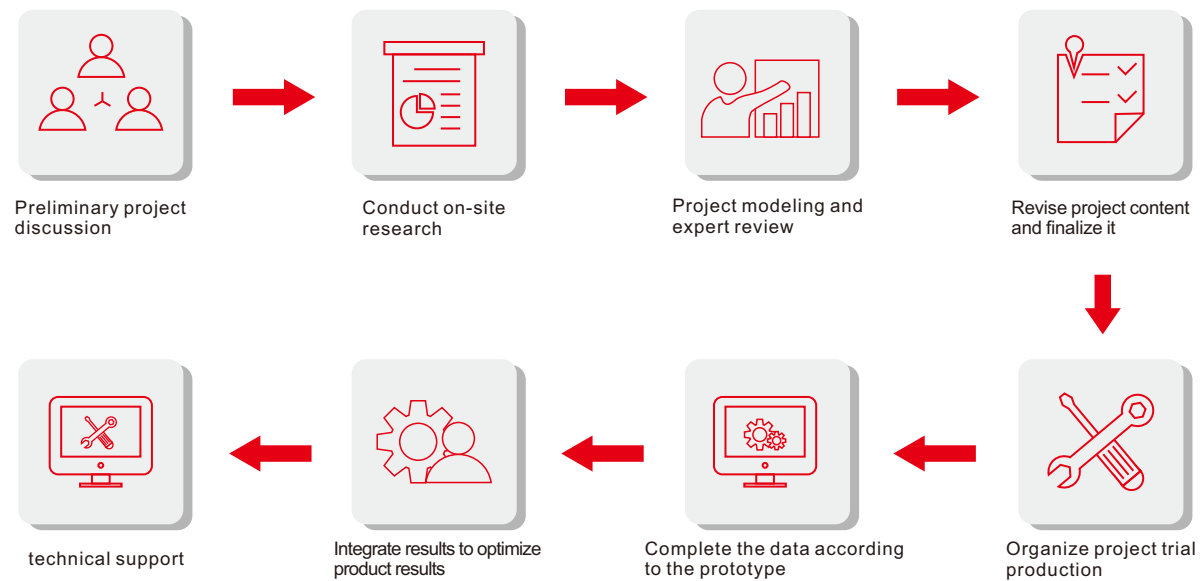
Wijay Hydraulic Conveying Technology

In some special production processes, it has a very good application effect. While conveying the material, the material is quickly cooled down and the dust and foreign matter in the material are washed out. in the occasions where the material needs to be cooled down and the dust needs to be cleaned, hydraulic conveying is your ideal way.



R&D and manufacturing

Wijay Company adheres to lead the development of the enterprise with technological innovation. We have increased investment in technological research and development, and established a strong material automation system as well as and a core equipment research and design team, including outstanding scientific research and technical talents in the industry.



Continuous Research and Development

Wijay Corporation specializes in end-to-end project management of automated material handling systems for high-hygiene industries, encompassing system planning, design, installation, and commissioning. With a focus on solid material processing, we have independently developed multiple proprietary systems that have earned an exceptional reputation in the industry. Our expertise also extends to handling paste materials and fluid materials. Committed to continuous innovation, Wijay Corporation will persistently develop new systems to exceed customer expectations.

Our Advantage

Wijay Company's extensive project experience gives us a significant edge over our peers.

Advantage A: Simplicity and Efficiency

60%-70% of our components and equipment systems are designed to be simple and efficient.

Advantage B: Stability and Energy Efficiency

Save 20% on maintenance time and reduce energy consumption by 45%-60%.

Advantage C: Intelligent Monitoring

100% system safety, 100% material safety.

Advantage D: Information Management

Full process recording of information and 100% formula confidentiality

Our customers



International Quality Standards

20% of our revenue comes from Fortune 500 companies

60% of our clients rank in the top 3 in their industries

80% of our clients have an annual revenue exceeding 2 billion

Comprehensive Safety Assurance

Material safety assessment and testing

Explosion-proof design for prevention, suppression, containment, and isolation

Safety review during design and implementation

On-time and Efficient Delivery

<15 days for process, mechanical, and electrical design

<45 days for equipment, electrical control, and manufacturing

<15 days for on-site installation, commissioning, and testing

Ultimate Cost-Effectiveness

Minimalist design philosophy

highly efficient team

Self-developed and self-manufactured components

