



# Intelligent Vacuum Filtration Solutions Provider

18-Year Experience • ISO9001 Certified • Customizable

XINXIANG YINUO MACHINERIES CO., LTD.

Email: [info@vacuumdrumfilters.com](mailto:info@vacuumdrumfilters.com)

Tel: +86 17329378900

Address: Xiawan New Village, Funingji Town, Yuanyang County,  
Xinxiang City, Henan Province, China

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**Since 2007**

Yinuo Machinery specializes in vacuum filtration equipment and provides one-stop solid-liquid separation solutions.

# Vacuum Drum Filter

## Scraper discharge rotating drum filter

The G Series (scraper-type) rotary drum vacuum filter is a standard open-type, external filtration surface filter with rear (or bottom) feeding and scraper discharge. It achieves solid-liquid separation of suspensions under vacuum negative pressure through a filter cloth that operates synchronously with the rotary drum. Featuring high automation and continuous operation, this filter is widely used in industries such as chemical engineering, pharmaceuticals, tailings processing, and environmental protection.



### Application

This filter is suitable for filtering suspensions with moderate solid-phase concentration and specific gravity, and relatively uniform particle size. It is applicable in the following scenarios:

- Suspensions where the cake thickness obtained within a 2-minute filtration time exceeds 5mm.
- Suspensions where the solid phase has moderate specific gravity and particle size, resulting in a solid-phase settling velocity of less than 12mm/min.
- Suspensions with low viscosity, no colloids, minimal filter cloth clogging, and easy filter cloth regeneration.
- Situations where the filtration temperature is lower than the vaporization temperature of the suspension under the corresponding vacuum degree in the drum.
- Suspensions where a small amount of solid particles remaining in the filtrate is acceptable.
- Occasions requiring large processing capacity and continuous operation.

### Specifications

Model	Filtration area (m²)	Drum Diameter (mm)	Drum Width (mm)	Drum Speed (r/min)	Power (kw)	Dimension (L×w×h)mm	Weight (kg)
G2/1	2	1000	700	0.1 – 2	1.1	1540×1700×1300	960
G5/1.6	5	1600	1040	0.1 – 2	1.5	1920×2350×1340	3200
G10/1.85	10	1850	1780	0.1 – 1.8	2.2	2760×2650×2150	4240
G20/2.35	20	2350	2770	0.1 – 1.8	3	3850×3150×2650	5950
G30/2.64	30	2640	3680	0.1 – 1.5	4	4800×4380×2940	8420
G40/3.17	40	3170	4060	0.1 – 1.5	5.5	5170×5280×3470	11200
G45/3.17	45	3170	4580	0.1 – 1.5	5.5	5750×5380×3470	11600
G60/3.43	60	3430	5630	0.1 – 1.2	7.5	7090×6430×3730	14800

# Vacuum Drum Filter

## *Precoat discharge rotary vacuum drum filter*

The working principle of the GF - type drum filter is basically the same as that of a general vacuum drum filter. The main difference lies in that the GF - type filter conducts pre - coating with filter aids (such as diatomite, perlite, etc.) before filtration. During filtration, under the action of vacuum suction, the filter aid in the tank forms a pre - coating layer of the required thickness on the outer surface of the drum. Then, the slurry to be filtered is injected. Under the action of vacuum suction, the separated filtrate penetrates through the pre - coating layer and the filter cloth, and is discharged through the suction pipe, collecting pipe, and gas - liquid separator. The solid particles in the slurry are retained by the pre - coating layer and are continuously scraped off by the automatically feeding scraper along with the surface layer of the filter aid. When the residual thickness of the pre - coating layer is about 10mm, pre - coating needs to be carried out again for the next working cycle.



## Application

This product is mainly applicable to occasions where filtration is required but the filtrate is not needed.

- Filtration and residue removal of various sugar liquids (glucose, maltose, dextrin, fructose, sucrose, etc.)
- Filtration and residue removal of fermentation broths such as telithromycin and spectinomycin in the pharmaceutical industry
- Filtration and residue removal of fermentation broths such as amino acids and enzyme preparations
- Filtration and residue removal of grape wine and hops
- Filtration and residue removal in the food and beverage industry
- Filtration and residue removal of wastewater in the chemical industry
- Pretreatment before membrane equipment filtration
- Filtration of food additives such as carrageenan





# Vacuum Drum Filter

## Precoat discharge rotary vacuum drum filter

### Products Features

- Customized design to meet different customer needs.
- Utilizes pre - coating technology for high - clarity filtrate.
- Automatic scraper discharge ensures high filtration efficiency.
- Drum surface can be designed with spraying for good material washing effect.
- Serialized process units for easy installation and use.
- Advanced and rational structure, with an elegant and sleek appearance.
- Excellent production environment, featuring simple, convenient and labor - saving operation.

### Specifications

Model	Filtration area (m²)	Drum Diameter (mm)	Drum Width (mm)	Drum Speed (r/min)	Power (kw)	Dimension (L×w×h)mm	Weight (kg)
GF2/1	2	1000	700	0.1 – 2	1.1	1540×1900×1300	1040
GF5/1.6	5	1600	1040	0.1 – 2	1.5	1920×2530×1340	3300
GF10/1.85	10	1850	1780	0.1 – 1.8	2.2	2760×2970×2150	4890
GF20/2.35	20	2350	2770	0.1 – 1.8	3	3850×3420×2650	6150
GF30/2.64	30	2640	3680	0.1 – 1.5	4	4800×4680×2940	8620
GF40/3.17	40	3170	4060	0.1 – 1.5	5.5	5170×5480×3470	11400
GF45/3.17	45	3170	4580	0.1 – 1.5	5.5	5750×5680×3470	11900
GF60/3.43	60	3430	5630	0.1 – 1.2	7.5	7090×6730×3730	15100

# Vacuum Drum Filter

## Belt discharge Vacuum Belt Filter

The working principle of the belt-folding drum vacuum filter is basically the same as that of the scraper type. The only difference lies in the filter cake discharge method. Therefore, the filter cloth of the belt-folding drum vacuum filter is wound in a zigzag pattern around the drum and each roller, and it has a better filtering effect on fine and sticky materials.



# Vacuum Drum Filter

## Belt discharge Vacuum Belt Filter

However, when the scraper-type filter handles fine and sticky materials, there are disadvantages such as difficult discharge, poor air permeability, easy clogging of the filter cloth, high moisture content of the filter cake, and low production capacity. In contrast, the belt-folding filter basically overcomes these problems by improving the discharge method and enhancing the cleaning of the filter cloth.

After the filter cake passes through the vacuum zone, the filter cloth will be led out of the cylinder by a set of rollers for discharge and cleaning; the cleaned filter cloth then returns to the cylinder to work again. When the filter cloth of the belt-folding vacuum filter bypasses the discharge roller, the filter cake falls off automatically through the change of curvature, and scrapers and other mechanisms can also be used to assist in discharge. This discharge method not only improves the filtering capacity but also does not require air blowing, which can prevent the filter cake from increasing in moisture content due to backwater.

In addition, the belt-folding filter leads the filter cloth out of the cylinder, allowing sufficient time for effective cleaning of the filter cloth: usually, pressure water is used to rinse both sides of the filter cloth, and when necessary, devices such as brushes and cloth beaters can also be used for more thorough cleaning to ensure the air permeability of the filter cloth.

### Products Features

- Continuously performs suction filtration, washing, and drying under vacuum.
- Equipped with an automatic filter cloth cleaning and regeneration system.
- Provided with an automatic deviation-correcting device to prevent misalignment.
- Several filter chambers are evenly distributed on the suction filtration surface of the drum.
- The main motor is controlled by an AC frequency converter, enabling stepless speed regulation of the main machine.
- The materials in contact with the materials are 304 or 316L.

# Vacuum Drum Filter

## Belt discharge Vacuum Belt Filter

### Optional additional systems:

- ◇ Add a mixing system.
- ◇ Add an on-site operation button box.
- ◇ Add spray pipes, nozzles, and air pipes for the filter cloth regeneration system.

### Typical applications of GD type:

- Gluten dehydration in the corn starch production process
- Filtration of penicillin fermentation broth
- Sludge dewatering
- Catalyst dehydration

### Specifications

Model	Filtration area (m²)	Drum Diameter (mm)	Drum Width (mm)	Drum Speed (r/min)	Power (kw)	Dimension (L×w×h)mm	Weight (kg)
GD2/1	2	1000	700	0.1 – 2	1.1	1540×2100×1300	1140
GD5/1.6	5	1600	1040	0.1 – 2	1.5	1920×2750×1340	3400
GD10/1.85	10	1850	1780	0.1 – 1.8	2.2	2760×3050×2150	4540
GD20/2.35	20	2350	2770	0.1 – 1.8	3	3850×3650×2650	6330
GD30/2.64	30	2640	3680	0.1 – 1.5	4	4800×4880×2940	8720
GD40/3.17	40	3170	4060	0.1 – 1.5	5.5	5170×5880×3470	11900
GD45/3.17	45	3170	4580	0.1 – 1.5	5.5	5750×5930×3470	12100
GD60/3.43	60	3430	5630	0.1 – 1.2	7.5	7090×6980×3730	15300

# Product Advantage



## Intelligent Control

Equipped with a PLC control system, featuring one-click start/stop functionality and Compatibility with unified filtration system management; Automatically performs feeding, discharging, and filter cloth cleaning, with remote operation support to reduce labor costs.



## Stable Performance

Adjustable drum rotation speed ensures high filtration efficiency, large processing capacity, and continuous operation without mesh clogging; Undergoes four-stage quality control processes, resulting in stable and smooth equipment operation, thorough impurity separation, low solids content in filtrate, and crystal-clear clarity.



## User-Friendly Design

Modular design with skid-mounted flexible assembly reduces floor space, enables flexible installation layouts, and simplifies transportation; Validated through multiple field simulation tests, ensuring simple and user-friendly operation, with low noise and zero dust emission during use.



## Clean and Aesthetic Appearance

Modular integrated design ensures a compact structure with no exposed wiring; the overall style can be customized with coating designs according to customer requirements; Mirror-polished stainless steel panels and precision grinding at joints ensure a neat and aesthetic appearance in every detail.



# Company Profile

- Xinxiang Yinuo Machinery Equipment Co., Ltd. founded in 2007, We are a comprehensive modern enterprise specializing in the research and development, design, production, sales, and service of vacuum filtration equipment. With customer needs at its core, the company has developed in depth in segmented fields and is committed to providing intelligent solutions for industries such as petroleum, chemical engineering, food processing, metallurgy, and new energy.
- The company boasts a modern production base, equipped with multiple sets of automated production and testing equipment. It has established filtration test sites and equipment inspection systems, with strict quality control throughout four key production stages: incoming material inspection, equipment inspection, process inspection, and simulation testing. These rigorous standards lay a solid foundation for equipment quality. The company has obtained ISO9001 Quality Management System certification, "AAA-level Enterprise Credit" certification, and "Municipal-level Safety and Quality Standardization Enterprise" certification, with its product and service quality enjoying wide acclaim.
- Through years of industry accumulation, the company has amassed extensive test data, laying a technical foundation for customized R&D in segmented fields. It gives full play to its advantages in technical talents, has established a technical center, and invests substantial funds annually in equipment R&D, testing, and improvement to drive the intelligent development of vacuum filtration equipment. By conducting a series of analyses such as incoming material pH testing, moisture detection, and particle size analysis, Yinuo Machinery creates more targeted solutions. Its filtration equipment features intelligent functions such as one-click start/stop, remote control, and automatic alarm, meeting the usage needs of customers in various fields.
- With more than 15 years of industry experience, Yinuo Machinery has always adhered to its original aspiration for quality, acting as a practitioner in the intelligent development of the vacuum filtration industry. Driven by innovation, it has overcome numerous "bottleneck" challenges in application fields, improved the energy efficiency of the filtration industry, and contributed Yinuo's strength to the high-tech and high-quality development of China's filtration industry.







## Customization Capability

In-depth Development in Focused Fields, Refined R&D, and Serving Customers in Segmented Sectors

- The core technical team has over 15 years of industry experience, with a deep understanding of the market and expertise in identifying customer needs;
- Conduct technological innovation based on market demands to provide personalized customization and development services for segmented fields;
- Self-built filtration test sites and equipment inspection systems to simulate specific application scenarios, ensuring filtration performance meets standards in actual use;

## Industry Cases

In-depth Cooperation with Leading Enterprises in Various Fields Such as CNPC and CNOOC

- Fulfill contracts on time and in accordance with quality requirements, maintaining long-term cooperation with numerous enterprises and institutions;
- Equipment has been applied to projects of CNPC and CNOOC, and has been included in CNPC's material supplier list.

## Technical Strength

Over 15 Years of Industry Dedication, Accumulated Test Data Across Industries, and Solid Technical Capabilities

- Focused on the filtration field for more than 15 years, with extensive industry experience;
- Multiple sets of automated processing and testing equipment provide technical guarantees for product quality;
- Certified by ISO9001 international quality management system, and awarded "AAA-level Enterprise Credit" certification and "Municipal-level Safety and Quality Standardization Enterprise" certification;



## Contact us

Should you have any requirements related to vacuum drum filters (such as model selection, technical parameters, application solutions, etc.), please feel free to contact Yinuo for consultation at any time! Our professional team will provide you with accurate answers and customized support to help you advance your project efficiently.

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