



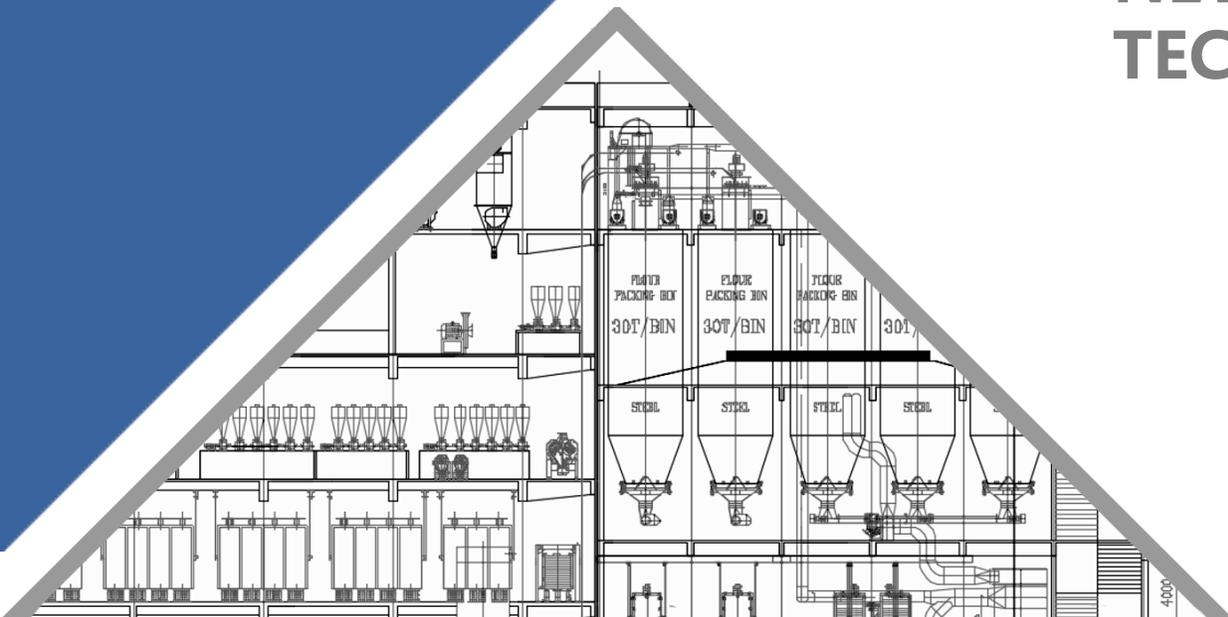
GOLDEN GRAIN

NEW DEVELOPMENTS OF MILLING TECHNOLOGY IN CHINA

IAOM Vietnam 2023

Professor Li Dongsen

Henson Kou



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ABOUT GGI

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CHINA FLOUR INDUSTRY OVERVIEW



WHEAT & FLOUR DATA IN CHINA

CHINA ANNUAL WHEAT CAPACITY

120 Million Tons



WHEAT CAPACITY FOR MILLING USE

86 Million Tons



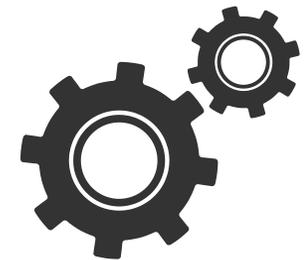
CHINA FLOUR MILL QUANTITY

1500 Factories



CHINA FLOUR MILLING LINES

3000 Lines





TOP 3 FLOUR MILL IN CHINA

WUDELI

85,000 Tons/Day



YIHAI (WILMAR CHINA)

55,000 Tons/Day



COFCO

40,000 Tons/Day



These three companies total capacity is 55,500,000 Tons Wheat/ Year.



FEATURES OF FLOUR IN CHINA

- **China's flour quality requirements:**
 - 80% flour used for steamed, boiled foods and frozen flour food.**
- **Requiring low ash content and bright color and lower damaged starch.**
- **Frozen flour food requires lower bacterial content.**

FEATURES OF FLOUR IN CHINA

**Wet noodle, frozen flour food (Noodle, boiled dumpling , stuffed bun),
flour requirement:**

- **lower ash, lower damaged starch.**
- **Prevent discoloration, cracking and aging.**
- **Control bacterial content.**





BASIC STEAM BREAD





STEAM STUFFED BREAD/BUN





DUMPLINGS





ARTISTIC STEAM BREAD





DRY NOODLE





WET NOODLE





BREAD





CAKE & COOKIES





PANCAKE/NANG BREAD





OTHERS



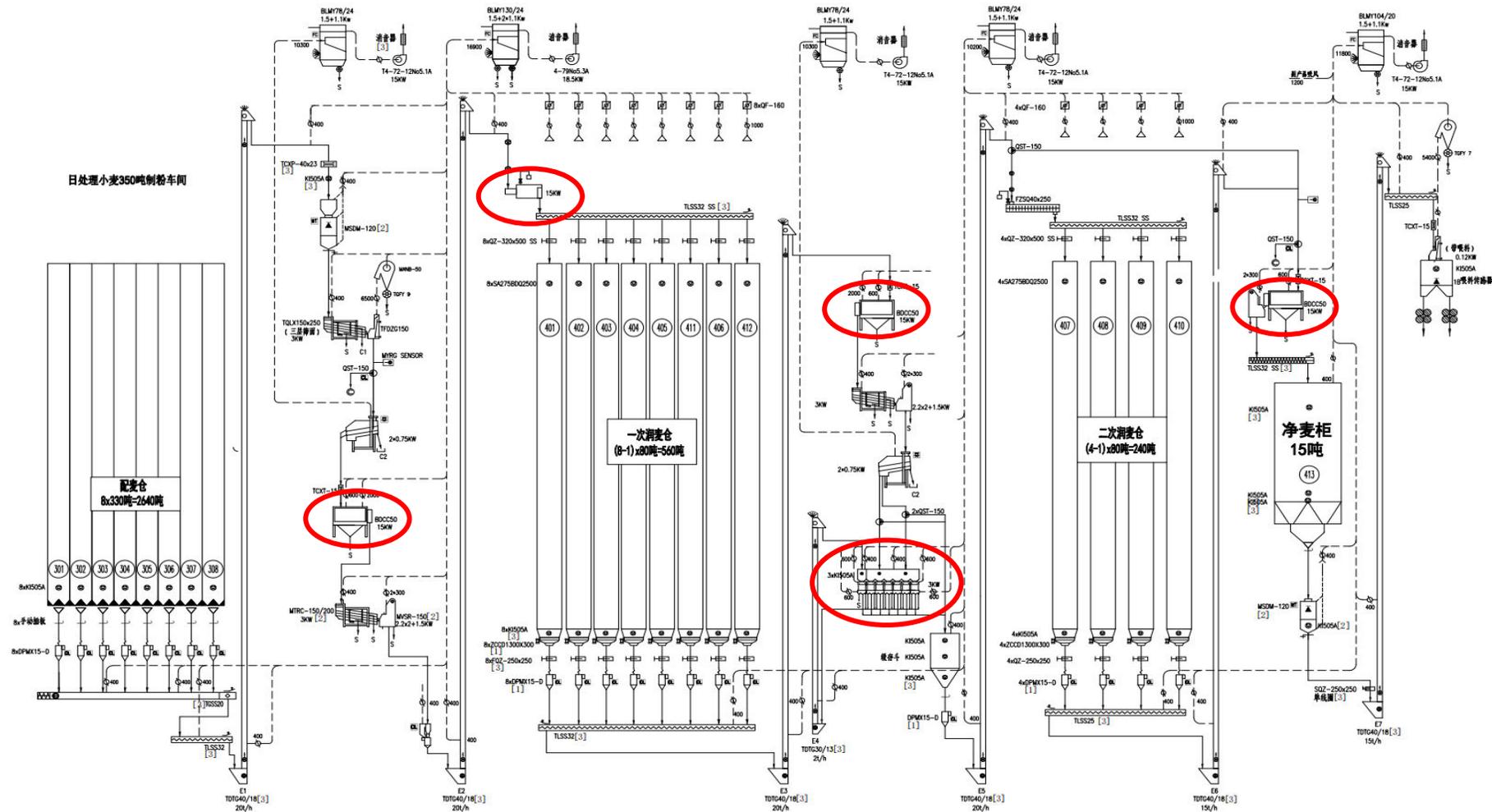
02

**GGI MILLING TECHNOLOGY
FEATURE AND FLOUR QUALITY**



MILLING TECHNOLOGY FEATURES OF GGI

Improved cleaning process technology and equipment:
Lower ash and bacterial content.





MILLING TECHNOLOGY FEATURES OF GGI

High Dampening efficiency

China flour mill capacity is higher and higher, to save dampening bin investment and make dampening efficient higher, China has developed different kinds of dampener. Such as vibration dampener.

- Strong-Mixing Dampener with high pressure
- Water addition 3% - 7%.





MILLING TECHNOLOGY FEATURES OF GGI

Color Sorter

Cylinder & disc separator

China domestic request better cleaning effect, and now there are more better choices.





MILLING TECHNOLOGY FEATURES OF GGI

Poor quality wheat, discolored wheat, its flour is easy to change color, high bacterial content



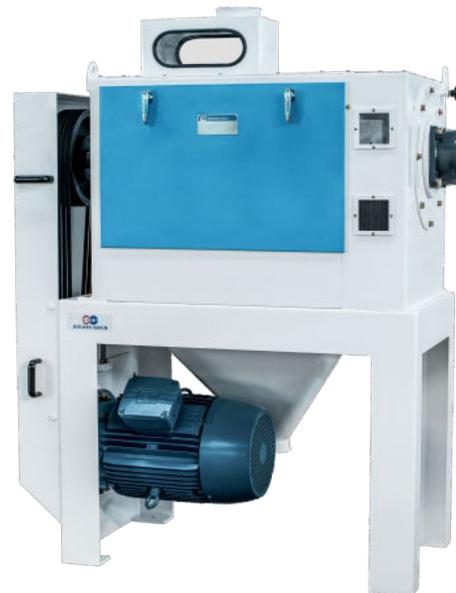


MILLING TECHNOLOGY FEATURES OF GGI

Good Surface Cleaning

China has developed different kinds of Scoure for surface treatment.

- Can reduce the ash content significantly.



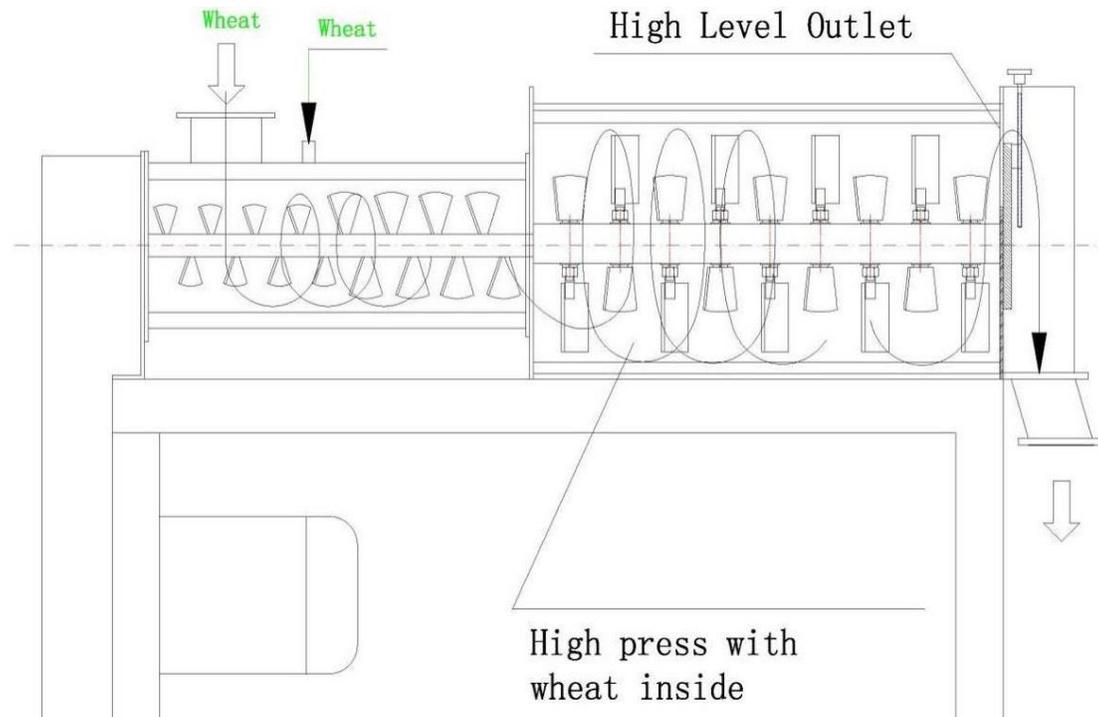


MILLING TECHNOLOGY FEATURES OF GGI

Strengthen the surface cleaning of wheat:

Using semi-wet cleaning technology.

Lower ash and bacterial content.





MILLING TECHNOLOGY FEATURES OF GGI

Strengthen the surface cleaning, using rub friction of scourer.

Lower ash and bacterial content.





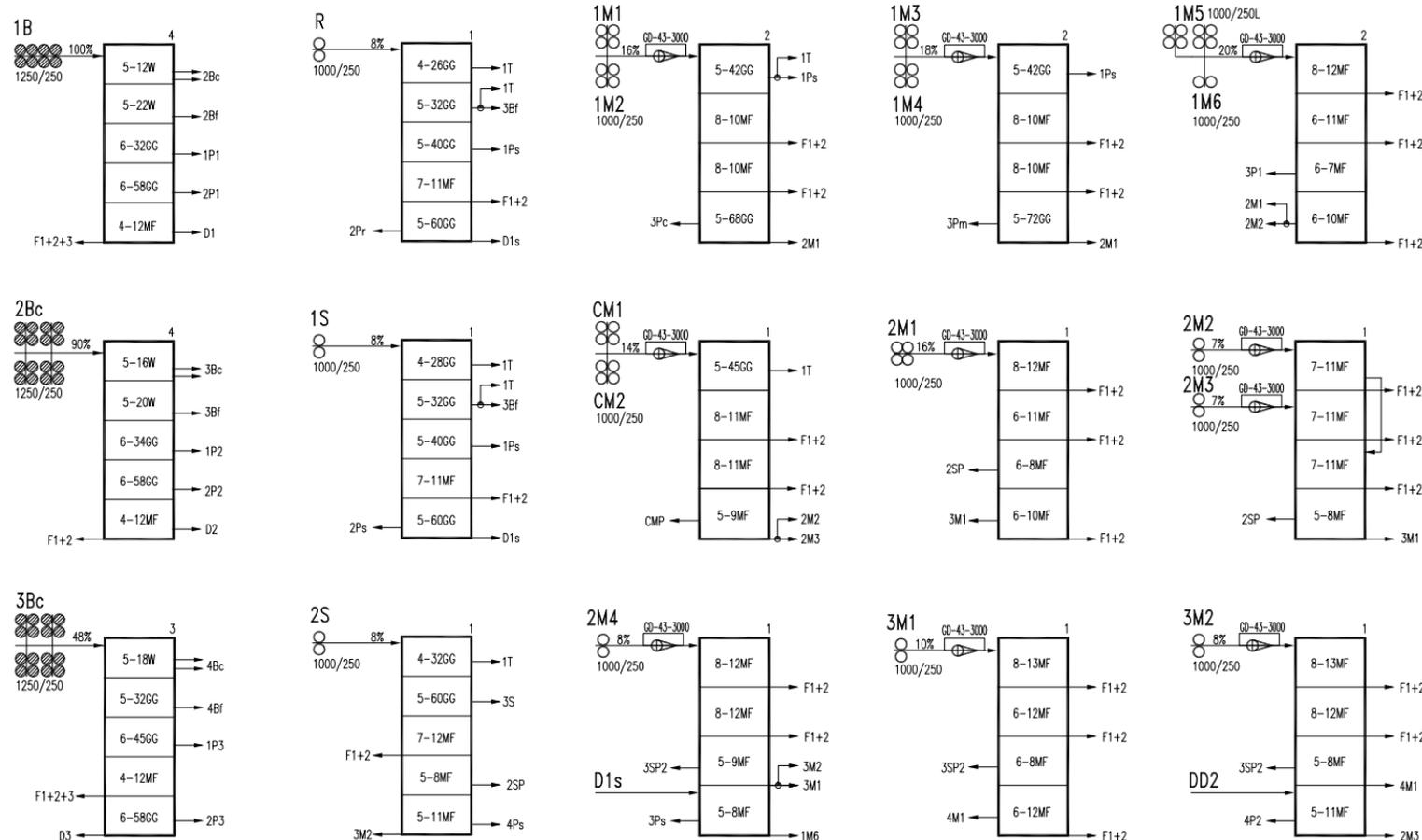
MILLING TECHNOLOGY FEATURES OF GGI

- **The roll length is longer and more purifiers are used. Adopt light grinding, and strengthen the classification and purification.**
- **Roller length ≥ 16 mm/100kg wheat/24 hours. Normally 16-17 mm/100kg wheat/24 hours;**
- **The sifting area of plansifter is 0.1-0.12 m²/100 kg wheat/24 hours;**
- **The purifier, 3.5-4 purifiers/100 tons of wheat. The sieve width of the purifier: 3.22-3.68mm/100kg/24h.**
- **Milling section with 7 floor of the mill building, easy to arrange more purifiers;**



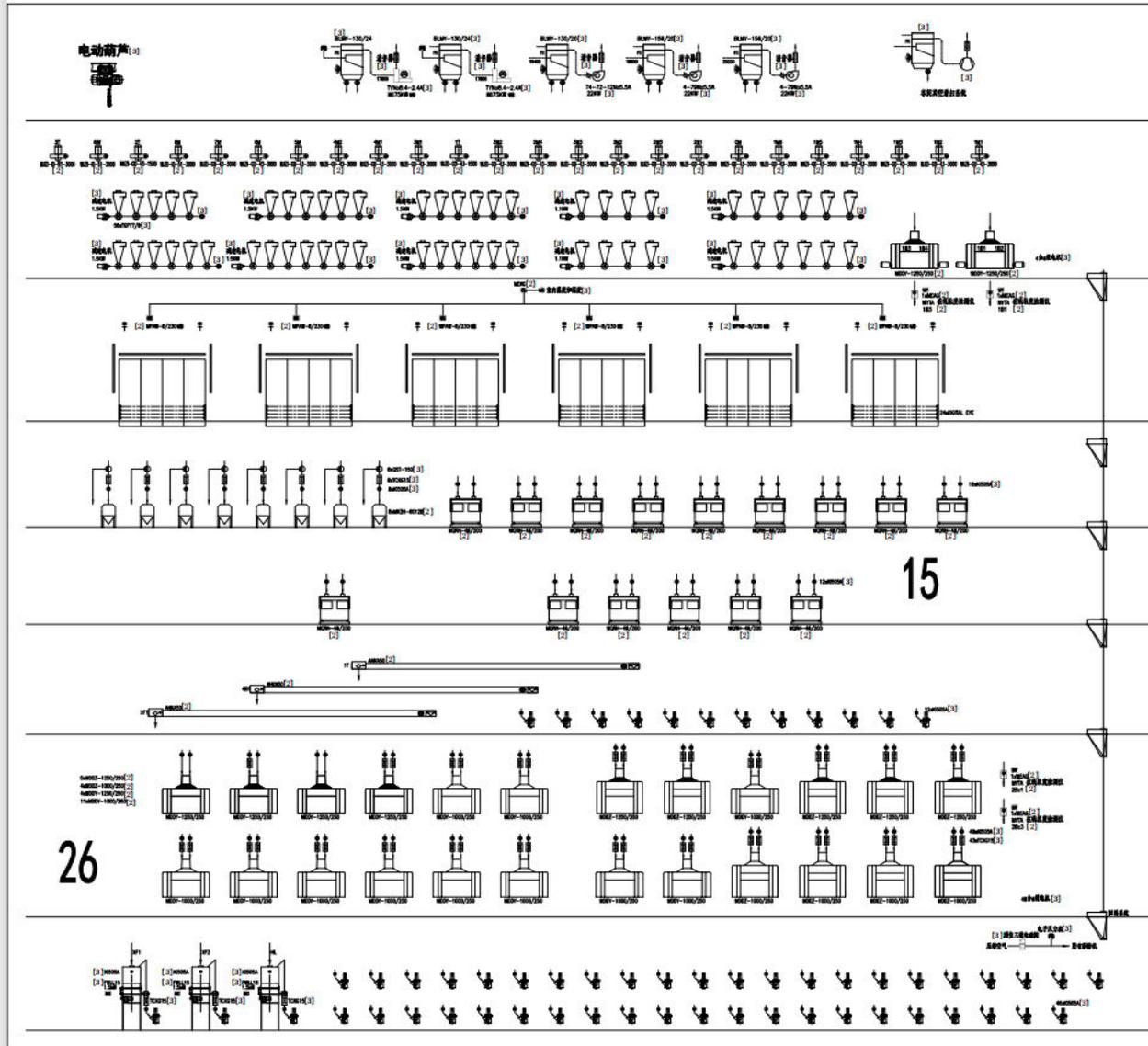
MILLING TECHNOLOGY FEATURES OF GGI

350T/D flour mill: 26 rollermills, 16.43 mm/100kg/24h, gentle grinding, easy to control flour particle size and damaged starch, lower temperature, keeping gluten good extensibility and nature wheat flavor. **Lower 10% power.**





MILLING TECHNOLOGY FEATURES OF GGI



7
6
5
4
3
2
1

350T/D

GD-1000/24	MSD
GD-1000/26	MSD
GD-1000/28	MSD
GD-1000/30	MSD
GD-1000/32	MSD

- 方案设计阶段 (SD)
- 初步设计阶段 (PD)
- 扩初设计阶段 (DD)
- 施工图设计阶段 (CD)
- 竣工图设计阶段 (AD)

Golden Grain
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设计单位	甘肃天水顺顺农业科技有限公司		
项目名称	日处理小麦350吨制粉车间		
设计阶段	制粉车间分置流程图		
项目负责人	刘成林	负责人	李彦涛
工艺设计人	XXX	审核人	张德明
设计日期	2021.07.31	设计号	SD-GGA-04

Pay attention to the control of flour particle size and damaged starch.

1. Flour particle size control:

The particle size of flour should not be too coarse or too fine.

2. Damaged starch control:

Damaged starch is not as high as possible, depending on the quality of wheat and flour quality requirements.

3. Less heating, keeping more nature wheat flavor.

For any flour food, not only in China.

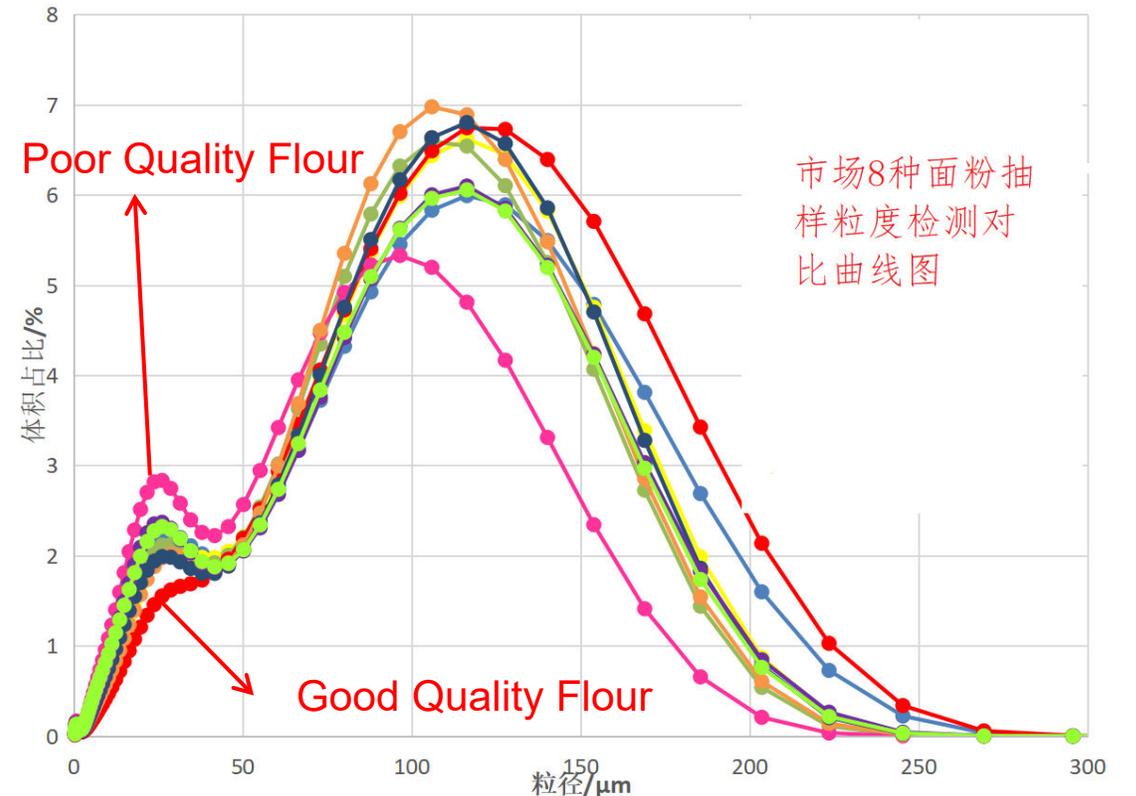


图1 不同面粉的颗粒度曲线图

03

ABOUT US



ABOUT US

200+ Employees

500+ Projects

- GG was established in the 1990's by Mr. Li Dongsen, professor of Henan University of Technology.
- GG focus on grain handling & processing projects.
- Now the factory occupied more than 70,000m² land.
- The Grain Processing Research Center has been set.





WE ARE HERE



- 1. Zhengzhou city, China
- 4. Manila, Philippines
- 7. Bogota city, Colombia

- 2. Hongkong, China
- 5. Dubai city, UAE

- 3. Jakarta, Indonesia
- 6. San Salvador city - El Salvador



FACTORY

1. GGI 1st factory in Zhengzhou City, Henan Province, China.





FACTORY

- 2. GGI Headquarters Factory (No.2) in Zhengzhou City, Henan Province, China.
- 3. GGI Joint Venture Factory in Yangzhou City, Jiangsu Province, China





FACTORY

GG New Office Building



GG New work shop 1





FACTORY





FACTORY



OPTIMIZED MAIN MACHINE

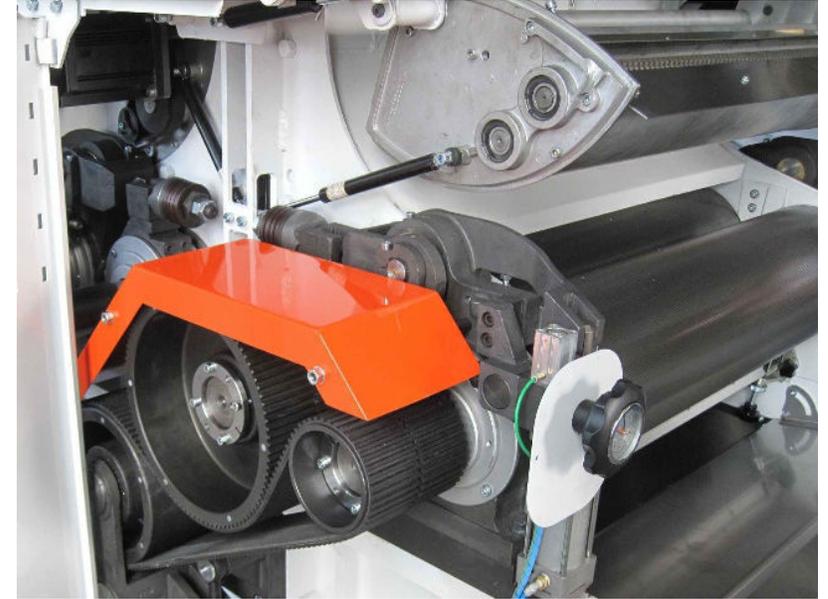
China flour mill request easiest maintenance, and

- ROLLER MILL: Stable with cast iron base, and the two rolls can be removed as a whole pack during maintenance.
- PLANSIFTER: Sieve frame with bigger net area.
- PURIFIER: Air easy adjustable.



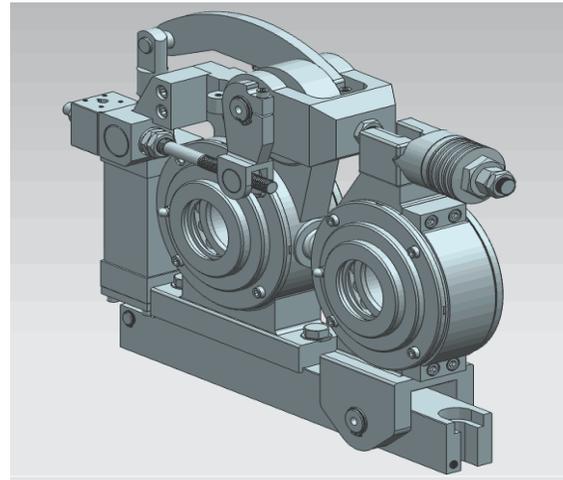
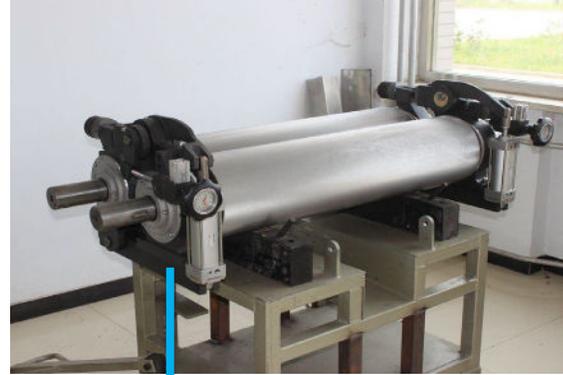


EQUIPMENT





EQUIPMENT



FEATURES

Quick-change Roll Pack.

The two rolls can be changed as a whole pack including the air cylinder. It greatly improves the maintenance efficiency.



EQUIPMENT





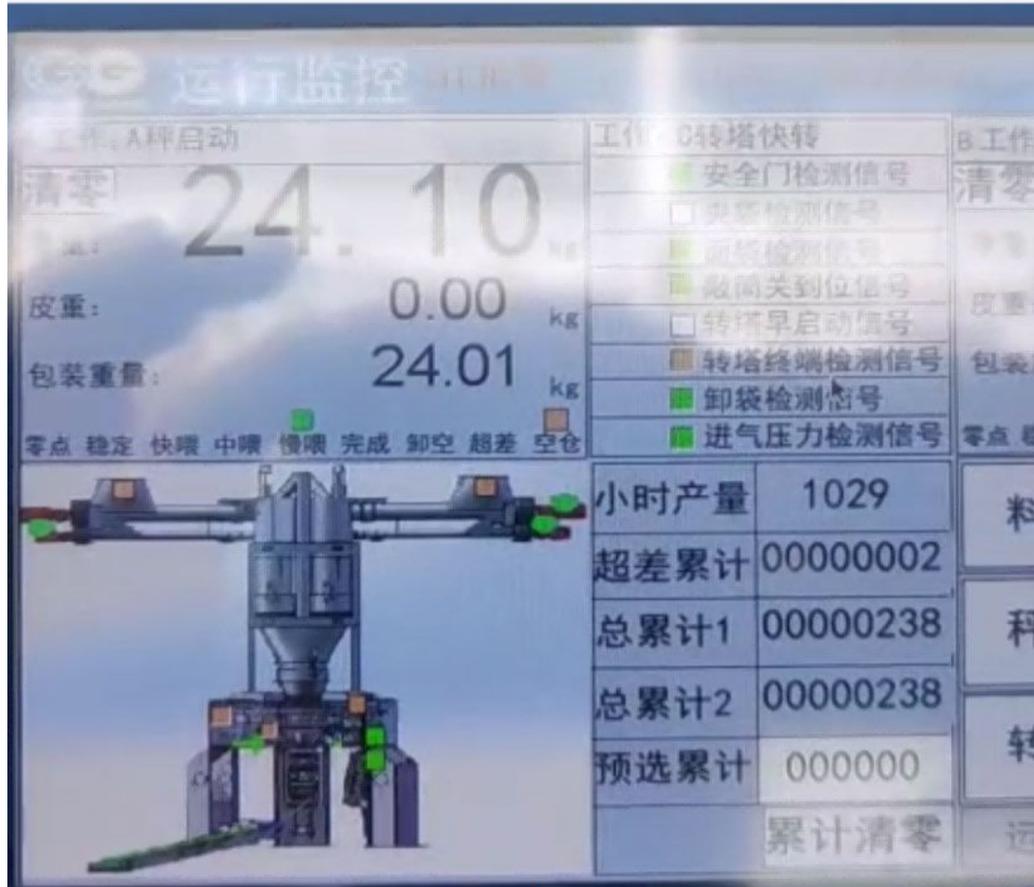
EQUIPMENT





EQUIPMENT

Semi-Auto Packer





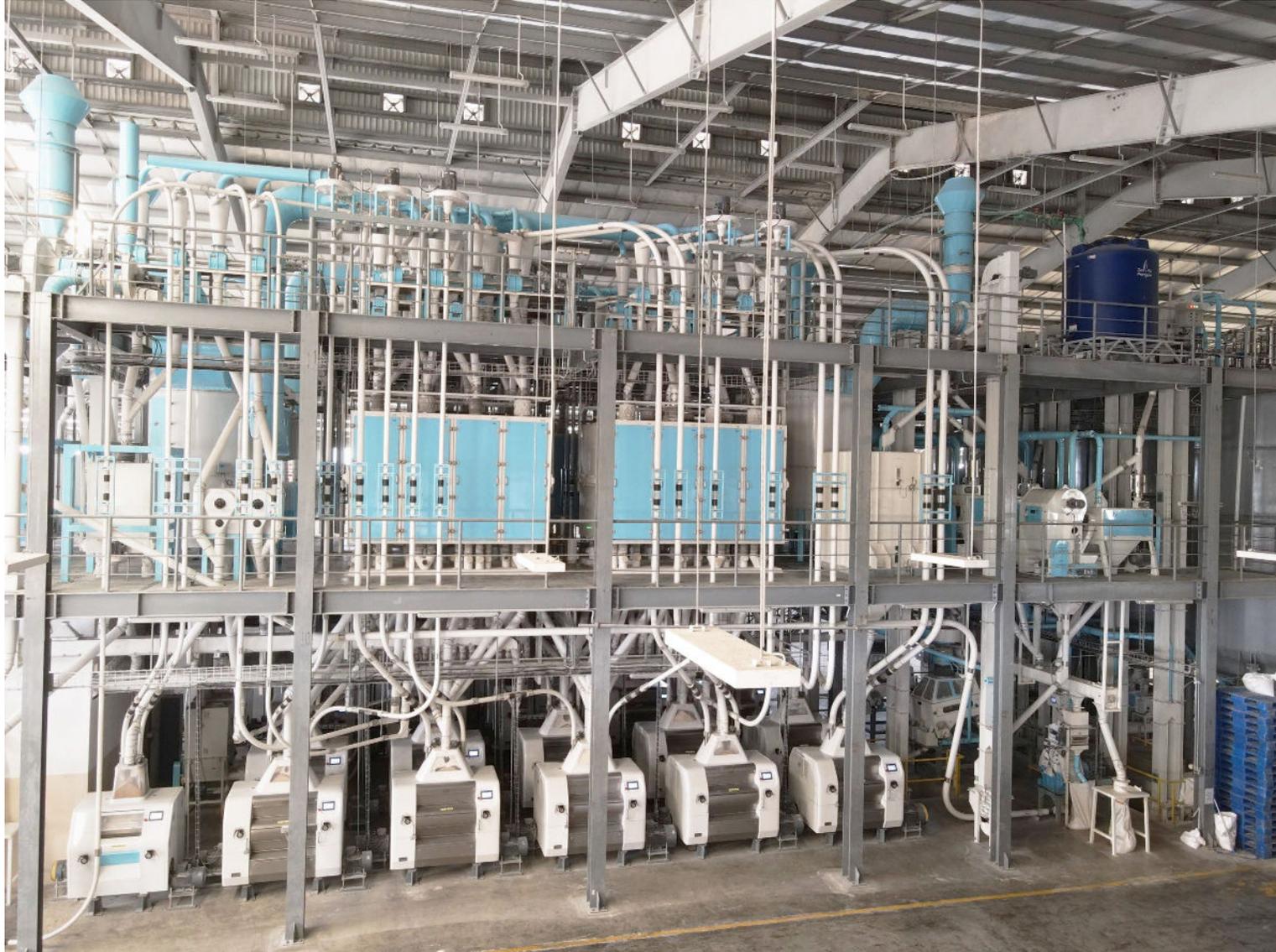
EQUIPMENT

FUL AUTO PACKER





PROJECT



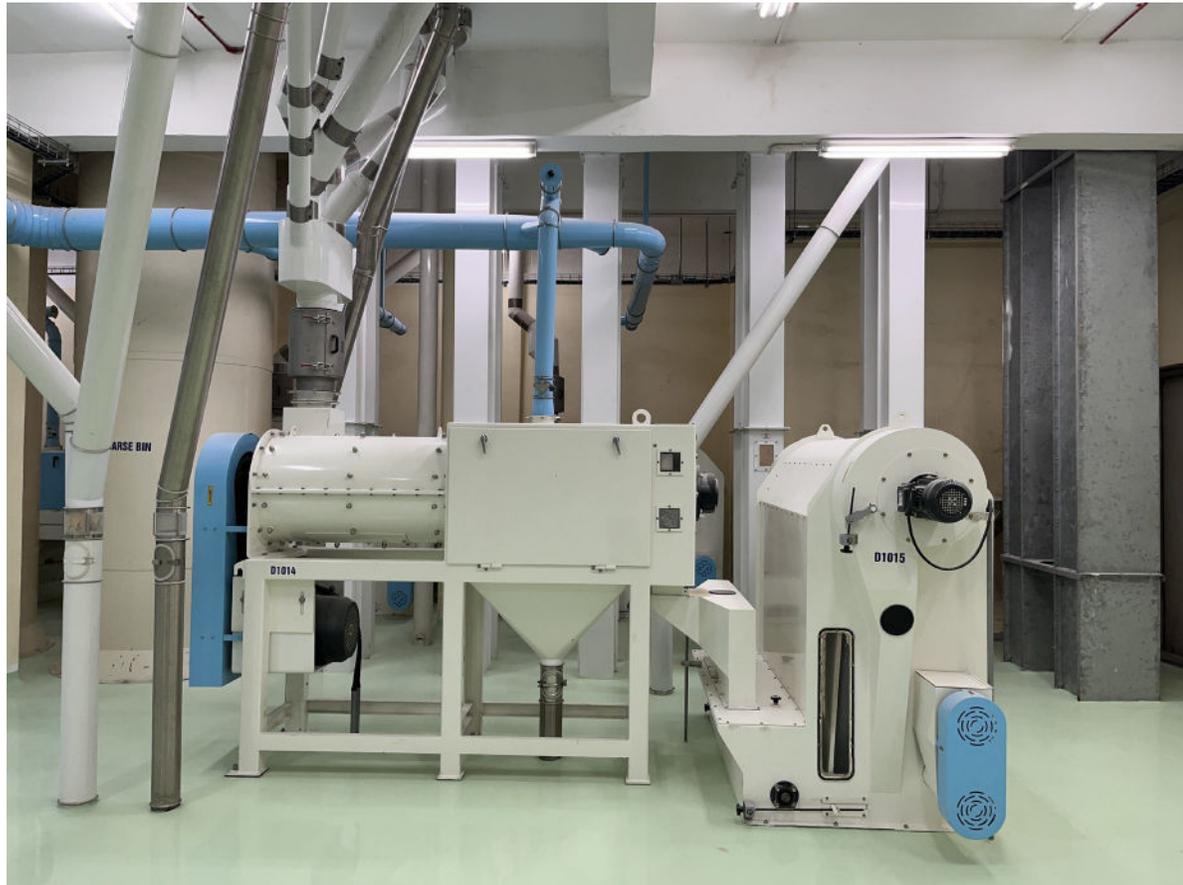


PROJECT





PROJECT





PROJECT





PROJECT





The Indonesia Cilegon Project

The Cilegon 6x500 ton complete flour processing line in Indonesia is one of the most modern flour factories in Indonesia, capable of producing a variety of customized and highly competitive flour products. The company has grown rapidly and is now one of the top 5 players in the Indonesian flour industry.





The Indonesia Medan Project

The Medan 3x500 ton + 2x150 ton complete flour processing line in Indonesia is highly automated, saving labor costs and improving competitiveness. The client is forward-looking and is also the first flour factory in Indonesia to use solar power generation.





The Philippines Project

The 2x500 ton complete flour processing line in the Philippines was designed by GGI, starting from the overall planning stage, providing modern design concepts for customers. Currently, this flour factory has become a benchmark project in the Philippines.





The COFCO Lihua Jinghai Project

The project covers an area of 140 acres, with 4 flour production lines, processing 600,000 tons of wheat annually (2000 tons of wheat processed per day, producing 1400 tons of flour per day).





GOLDEN GRAIN



COFCO Shenyang Project



Anyang Hualong Village Project



Jinan Mintian Project



Jiangsu Sanling Hai'an Project



Hebei Hualong Farmstead Project



Keming Flour Suiping Project



Shandong Luhua Flour Yanjin Project



Xinjiang Tianshan Flour Changji Project



COFCO Zhengzhou Project



Yihai Jiali Chaozhou Project



Qianwei Central Kitchen Xinxiang Project



COFCO Weinan Project

THANK YOU

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