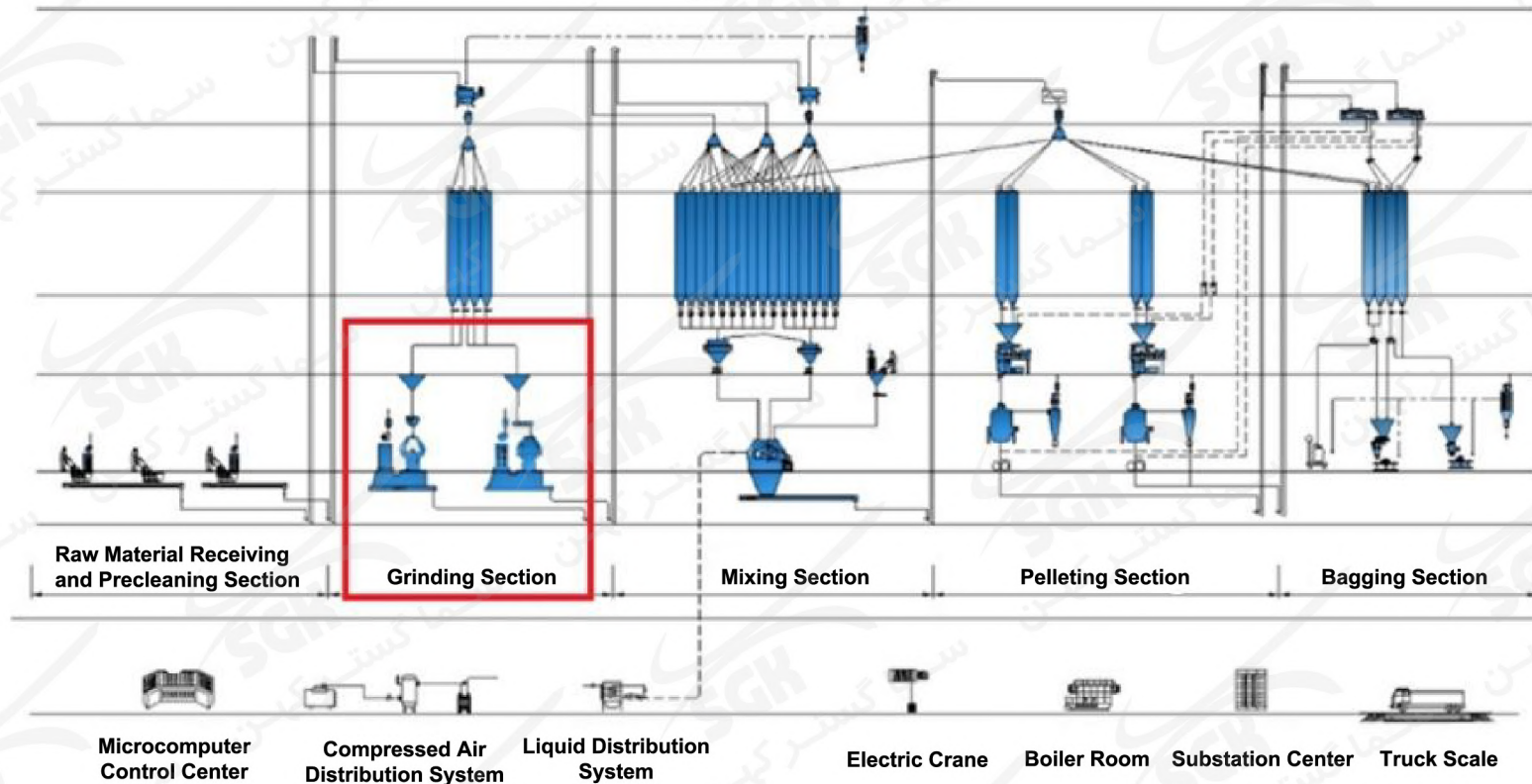


# Zhengchang Series Hammer Mill

Zhengchang Research Institute

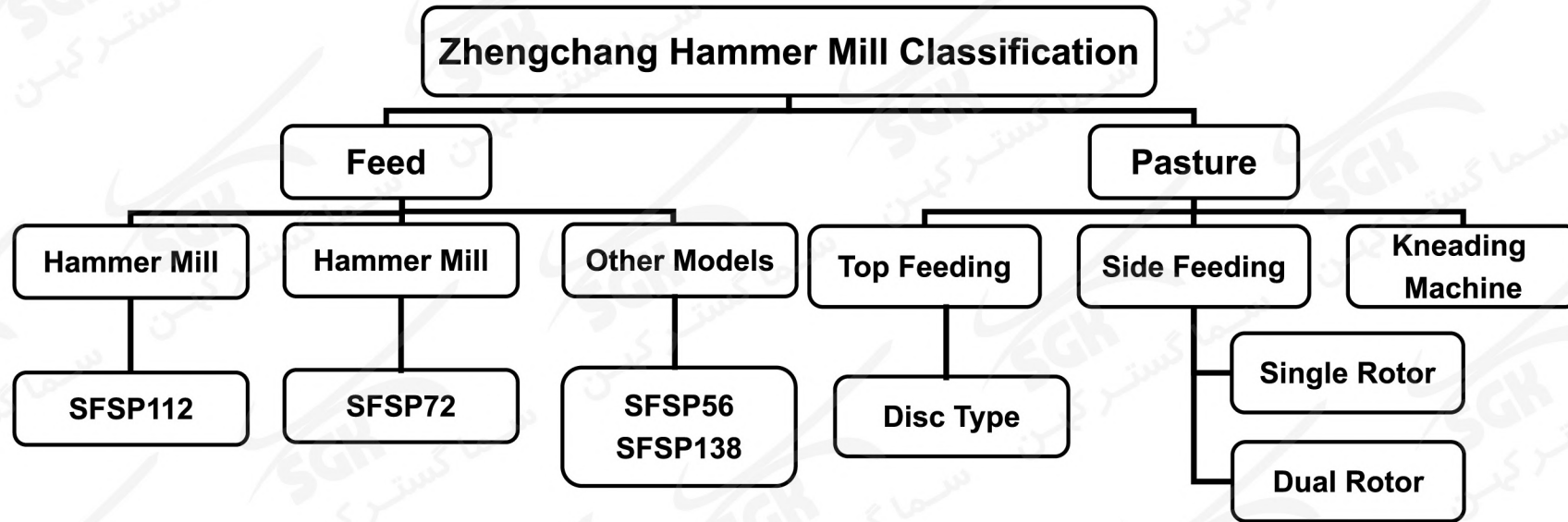


Stability and Reliability Contribute to Long-term Development



Grinding is one of the important sections in feed producing, which not only affecting the nutritional value of animal diets, animal production performance, animal health care and environmental sanitation, but also affecting the production performance, efficiency and physical and chemical quality of subsequent mixing, pelleting, extruding sections.

# Zhengchang Series Hammer Mill



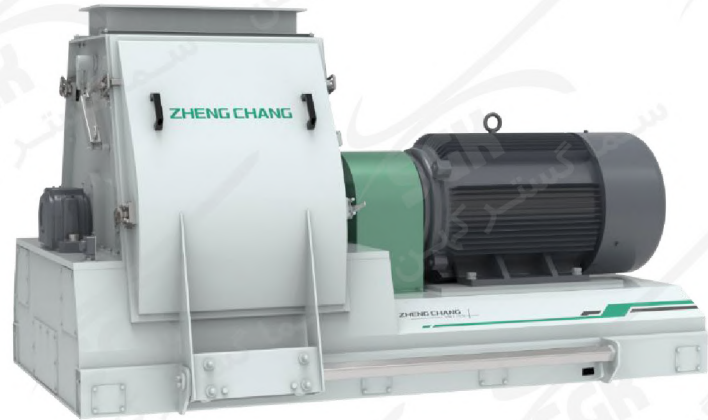
## Hammer Mill (SFSP72 Series)



Model		Power (KW)	Rotating Speed (r/min)	Grinding Chamber Width (mm)	Number of Hammers /groups	Rotor Diameter (mm)
72 Series	SFSP72×30	37/45	2970	390	40/8 Group	697/714
	SFSP72×38	45/55		526	56/8 Group	
	SFSP72×50	55/75		620	72/8 Group	
	SFSP72×60	75/90/110		750	80/8 Group	
	SFSP72×75	110/132/160		1000	112/8 Group	
	SFSP72×100	132/160/200		1200	144/8 Group	
	SWFP70×150	220/250		1500	192/8 Group	

Model	SFSP 72×30		SFSP 72×38		SFSP 72×50		SFSP 72×60			SFSP 72×75			SFSP 72×100			SWFP 70×150	
Power (KW)	37	45	45	55	55	75	75	90	110	110	132	160	132	160	200	220	250
Φ2.0 screen grinding conventional corn (t/h) (moisture ≤ 13.5%)	≥4.6	≥5	≥5.6	≥6.5	≥6.8	≥9	≥9.5	≥11.5	≥13	≥13.5	≥16	≥19	≥16.5	≥20	≥25	≥27	≥30
Φ1.0 screen grinding conventional corn (t/h) (moisture ≤ 13.5%)	≥1.8	≥2.4	≥2.4	≥3	≥3	≥4	≥4	≥4.8	≥6	≥6	≥7	≥8	≥7	≥9	≥12	≥13	≥15

## Hammer Mill (SFSP112 Series)



Model		Power (KW)	Rotating Speed (r/min)	Grinding Chamber Width (mm)	Number of Hammers /groups	Rotor Diameter (mm)
112F Series	SFSP112×30F	55/75	1490	400	80/8 Group	1101/1116
	SFSP112×38F	90/110		500	112/8 Group	
	SFSP112×50F	110/132/160		600	128/8 Group	
	SFSP112×60F	160/200		788	160/8 Group	
	SFSP112×75F	200/220		1000	224/8 Group	
	SFSP112×100F	220/250/280		1200	256/8 Group	

Model	SFSP 112×30F		SFSP 112×38F		SFSP 112×50F			SFSP 112×60F		SFSP 112×75F		SFSP 112×100F		
Power (KW)	55	75	90	110	110	132	160	160	200	200	220	220	250	280
Φ3.0 screen grinding conventional corn (t/h)	≥8.5	≥11.5	≥13.5	≥17	≥17	≥21	≥24.5	≥26	≥32	≥33	≥34	≥35	≥40	≥45

## Hammer and Screen



The hammer mill adopts high porosity and heat-treated high quality screen, which further enhances the grinding and discharging efficiency and the service life of the screen.

The hammer is processed by advanced technology, which is more wear-resistant and has a longer service life. A single piece can be used for producing up to about 70t feeds.

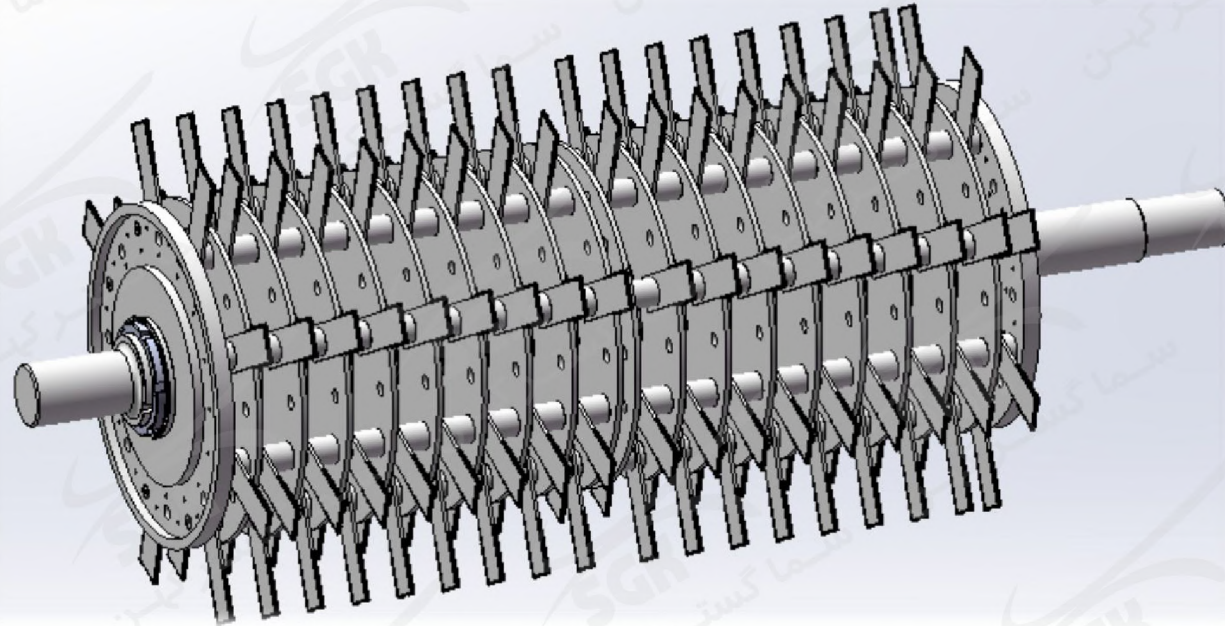
## Hammer Mill Adopts Domestic First Multi-cavity Patented Technology

The large circulation layer is divided into multiple small ones.



The hammer mill adopts the industry's first multi-cavity combination patented technology, which distributes material uniformly in the axial direction. The design of multiple sets of shear plates increases the shearing effect, destroys the material circulation layer, improves the grinding efficiency, and prolongs the service life of the screen.

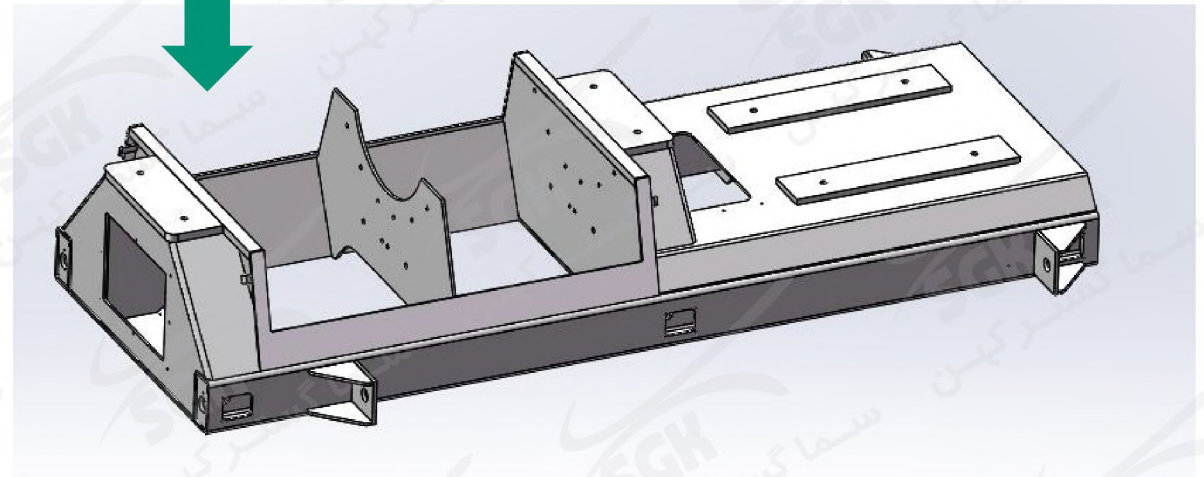
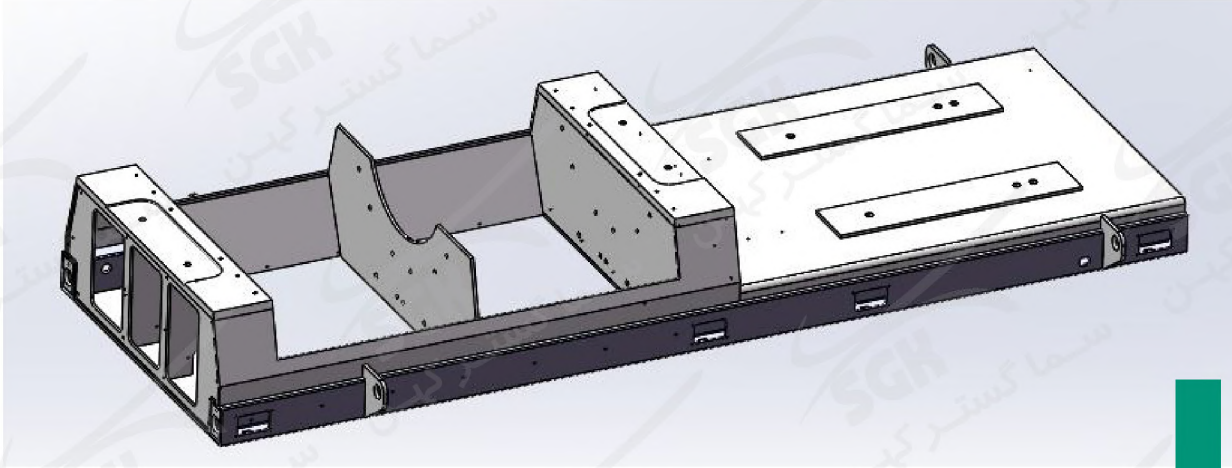
## Innovative Design of Hammer Mill Rotor Assembly with Better Dynamic Balance



- The optimized design of the rotor assembly, the improved processing technology of the hammer frame plate, and the dynamic balance correction by the high-precision dynamic balancer further improve the stability of the rotor and the service life of bearings, etc.
- The design of 8 groups of hammers and 4 groups of encrypted hammers for different grinding fineness requirements further improves the grinding efficiency and the uniformity of particle size distribution of the grinded materials.

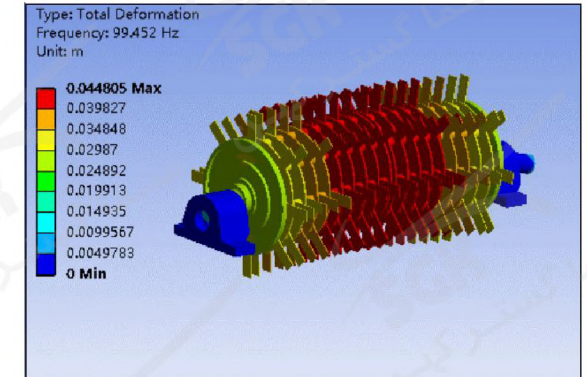
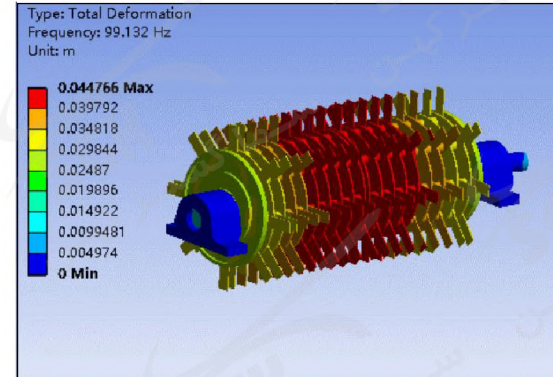
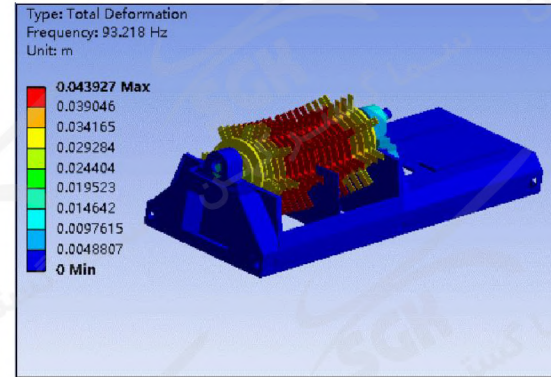
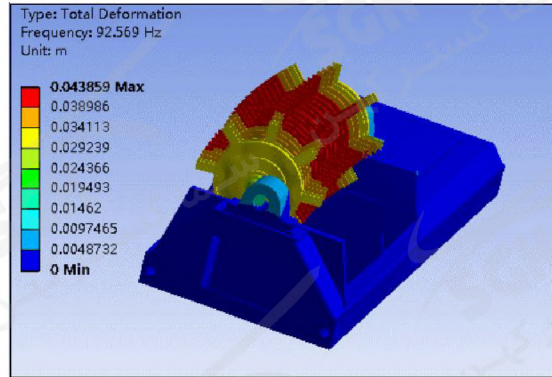


## Innovative and Optimized Design of Hammer Mill Base Structure



The optimized design of the base further improves the stability of the hammer mill, with smaller working vibration, higher structural strength and more reliable performance.

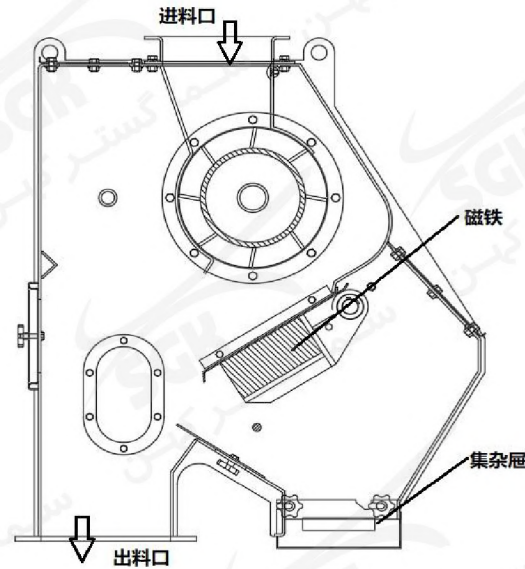
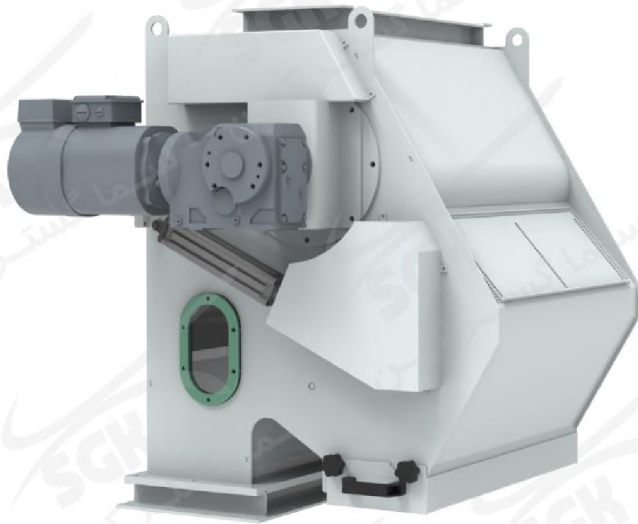
# CAE Modal Analysis of Hammer Mill Base



left and right vibration mode of the rotor up and down vibration mode of the rotor left and right vibration mode of the rotor up and down vibration mode of the rotor  
base rigid base rigid

- The stability of the base of the hammer mill is very important, which not only determines the noise and vibration of the hammer mill, but also affects the service life of the components of the whole machine.
- We make the modeling simulation analysis of the various operating states of the hammer mill, and improve the structure and form of the base, so that the support stiffness of the entire base to the bearing seat is sufficient for the radial excitation force of the rotor.

## Equipped with Multi-functional De-stone and De-iron Impeller Feeder



Function: Supplying stable, continuous, uniform and clean material flow with good fluidity to the full width of the hammer mill, and supplying a certain amount of air flow to the hammer mill at the same time.

When the material is evenly fed by the full width of the impeller and flows over the magnet, the ferrous impurities are sucked by the magnet, and non-ferrous heavy objects such as stones and stainless steel fall to the winnowing area along with the materials. By adjusting the air volume and direction and under the action of the wind, the non-ferrous impurities are separated from the raw materials and collected into the collection drawer to ensure the hammer mill works safely.

# Intelligent Control System of Hammer Mill



- The system has the functions of parameter setting, one-key start, bearing temperature detection, grinding chamber temperature detection, vibration detection, spark monitoring, energy consumption monitoring, etc.
- Intelligent automatic control system, real-time monitoring of equipment operating parameters and status, safer and precise control of finished products

## First-class Brand Outsourcing Parts Suppliers

**SIEMENS**

**ABB**



**AIRTAC**

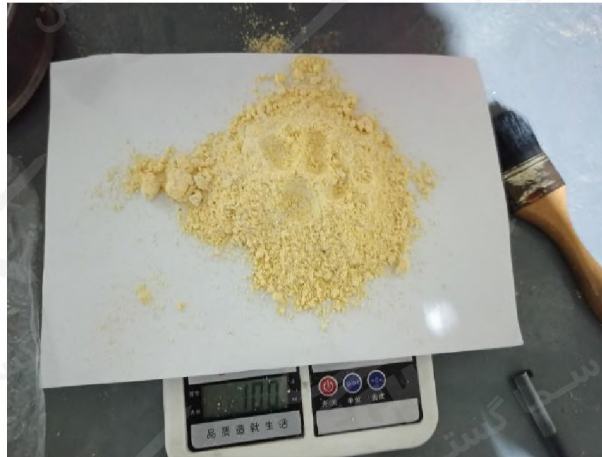
**Honeywell**



The whole set of external parts of the hammer mill adopts first-class brand, with stable and reliable quality.

# Application in Engineering Site

**Livestock and poultry feed raw material grinding**



# Application in Engineering Site

## Livestock and poultry feed raw material grinding



**SFSP72×100F 160KW**

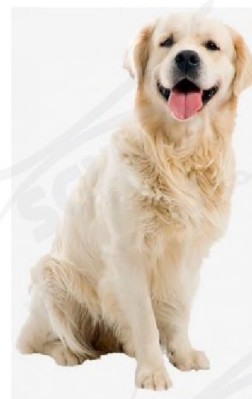
Crusher wind screen system configuration information				
Pulse Dust Collector	Model	TBLMFA64-2000		Pulse bag diameter 150mm
	Filter area (m <sup>2</sup> )	60.3		
	Air volume (m <sup>3</sup> /h)	7236-14472		
Centrifugal Fan	Model	6-23-12No.8C-30kW		Yuandong Shuangcheng
	Power (kW)	30		
	Air volume (m <sup>3</sup> /h)	5456-8118m <sup>3</sup> /h		
	Wind pressure (Pa)	9316-10474 Pa		

Raw Materials	Model	Soybean meal	Place of origin	Zhejiang Zhoushan
	Moisture before grinding	13.4	Moisture after grinding	13.1

Test Start	Start time	8:30	Ending time	8:47
	Number of test materials (t)	5	Duration (min)	17
	Feeder frequency (Hz)	30	Capacity (t/h)	17.85
	Motor rated current (A)	275	Motor no-load current (A)	70
	Motor running current(A)	Minimum: 245	Maximum: 260	Average: 252
	Fan current (A)	Rated: 57	No load: 53	Run: 53
	Bearing 1 temperature (°C)	Before running: 29.4	No load: 30.2	After stable operation: 35.5
	Bearing 2 temperature (°C)	Before running: 28.8	No load: 30.1	After stable operation: 35.3
	Grinding chamber temperature (°C)	Before running: 29.3	No load: 30	After stable operation: 31.6
	Body vibration parameters (mm/s)	Before running: 0	No load: 5.2	After stable operation: 4.6
Screen aperture φ1.5mm				
Grinding fineness screening	20 mesh pass rate	40 mesh pass rate	60 mesh pass rate	80 mesh pass rate
	99%	77%	46%	33%

# Application in Engineering Site

## Pet food raw material grinding





# Application in Engineering Site

## Biomass raw material grinding



# Thank You!

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