

GR2HZS120 Concrete Mixing Plant

GR2HZS120 concrete mixing plant is a new concrete production. It has absorbed many features of domestic & foreign concrete mixing plant, thus make it possess excellent Performances. GR2HZS120 has equipped with Computer management System and automatic control System, which make Operation simple and convenient. When you use GR2HZS120 concrete mixing plant, you only need to operate a few buttons. Then the whole working procedure is controlled by the Computer completely. GR2HZS120 concrete mixing plant can produce all kinds of concrete with high efficiency and high quality. It is the ideal and first chosen equipment for concrete construction and commercial concrete.



Structure type & feature

GR2HZS120 concrete mixing plant mainly includes concrete mixer, batcher, slant belt conveyor, powder material supply System, water & additive supply System, air line System, weighing System, dustproof System of main machine, electric control System, control chamber, etc. The concrete mixing plant has adopted module design which can form many allocations and combination according to different construction site and the requirements of the customers. The concrete mixing plant has adopted SICOMA 2m³ double horizontal shaft forced mixer which is stable and high efficient and can mix all kinds of excellent concrete with different labels. The control System has adopted world advanced control mode of industry control Computer and PLC control, reliable and stable. The excellent weighing System can satisfy harsh request to weighing accuracy by the customers. In the environmental protection sphere, we have adopted WAM dust collector with main machine and silo top dust collector, thus, the powder displacement can be up to Europe Standard. The main building of mixing plant is spacious and bright. The control chamber made in factory is with high-level decoration. Consideration ergonomics design and art appearance design stress the quality and grade of the equipment.

Concrete mixer

Select double horizontal shaft mixer from SICOMA Company as Concrete mixer.

- Substantial structure design, shock absorbing, stable.
- Shaft end seal patent technology, which can prevent the sand entering into shaft head effectively, thus, can obtain perfect seal result.
- Multiple mixing cutter design can make even mixture
- Check oil line condition automatically to let the power always in the Optimum condition.

Batcher

Combination type concatenation store house plus horizontal belt conveyor type.

Weigh by two aggregate scales to satisfy the ingredient requirements of four different aggregate.

- Rough, fine weighing, increase weighing accuracy
- Microwave humidity check System to add sand or decrease water (option).
- Correct overshoot value automatically, compensate deficient value automatically
- Adopt famous brand weighing sensor with fine Performance.
- Adopt JiNan HuaNeng series pneumatic element.

Slant belt conveyor

Disassemble type lattice structure, transport by small angle long flat belt

- Closure transportation, dust proof , material anti dropping.
- Deviation automation warning device.
- Slot type front tilt roll, adjust center automatically to prevent deviation.
- Gravity type tensioner, need not adjust frequently
- Deck with two sides, which is convenient for maintenance
- Collect the dropped materials.

Powder material supply System

Powder materials (cement, powder coal ash) supply System includes powder silo, spiral conveyor. 100t (single silo), 150t (single silo), 200t (single/double silo), 250t (single/double silo), 300t (single/double silo), 350t (single/double silo) powder silo which can be selected.

- Adopt WAM silo top dust collector to realize zero displacement of powder.
- Adopt WAM level indicator.
- Adopt WAM fluidization pads.
- Adopt WAM pressure relief valve
- Adopt WAM butterfly valve.
- Adopt SICOMA spiral conveyor, which is with high efficiency, low noise.

Water and additive supply System

A set of water supply System, two sets of additive System, they all have middle accuracy weighing house, adopts rough, fine weighing, artesian plus solenoid valve module.

- Has middle accurate weighing house to increase weighing accuracy;
- Additive System has adopted corrosion resistance pump.

Air line System

Air supply System has been fitted with a TA-120A air compressor by ShangHai FuSheng with 1.5m³/Min displacement volume, 0.8MPa vent pressure, a 0.3 m³ reservoir is also equipped for addition. JiNan HuaNeng's products are widely used as System pneumatic element.

Weighing System

Weighing System includes aggregate weighing System, two sets of powder material weighing System, a set of water weighing System, a set of additive weighing System (which can satisfy the requirements of two kinds of additive.)

- Adopt famous brand weighing sensor with fine Performance.
- Adopt WAM butterfly valve.
- Special weighing technology to increase weighing accuracy.

Mixer dustproof System

Select WAM dust collector.

- High efficient and environment protection, powder displacement can reach Europe Standard.
- Automation control, maintain automatically by compressed opposite blowing air .
- Compact & elegant appearance and 13 m² filter surface meet the “ breath ” requirements of the concrete mixer.

Electric control System

Nowadays world advanced control mode of industry control Computer with PLC control has been adopted in the control System, which is with the functions of automation and manual Operation, compensation, remote control fault diagnosis, fault warning, etc. The control System also has the functions of formula management, data statistics, production management, report form Output, etc.

Control chamber

- Separate control chamber structure.
- Made by color steel plate with polystyrene sandwich, luxury decoration, cool/ warm air conditioner.
- Aluminum alloy doors & windows in four sides that is convenient for Operation and observation.
- Indoor complete automation control System.

Main performance features

Module design: According to the customer's need, supply many combination to meet individual characteristics requirements of different customers.

Heavy vehicle frame design: It can avoid Vibration of the main machine, thus improve the working environment and increase weighing accuracy.

Excellent weight System: Rough or fine weighing methods has been adopted in the weighing of water and liquid additive, that can increase weight accuracy efficiently This method has also been adopted in the weighing of aggregate to effectively ensure accurate ingredient. We have adopted world famous sensor and weighing System to ensure high quality ingredient accuracy.

Perfect electric control System: We have adopted nowadays advanced control mode of industry control Computer with PLC control in the control System which has automatic and manual type, has the functions of automatic compensation, remote control failure diagnosis, failure warning, etc. The control System also has the functions of formula management, data statistics, production management, report form Output, etc. Many years development practice, strong development ability and well-chosen imported parts, make nearly perfect control System..

Advantages of the System functions: Nowadays, mostly other control Systems have been adopt configuration Software which main defects are with inflexible programming, low treating ability and need to occupy large System resource, especially, deficient in database development, and with single function in the management treatment of ingredient data and production data. It cannot satisfy the more and more requirements to the mixing plant data treatment from the customers. We adopt Microsoft visual C + 6.0 development environment which is with high start and powerful functions. And the developed System program is with compact structure, quick running speed, strong treatment ability, obvious cartoon result. The System can let the Operator see clear at a glance of the production process. It has powerful data management functions, which include data management, ingredient management, communication management, real time dynamic display, failure warning, weighing correction management, fall management, print management, bill produce, help achieves, powder silo level management, customer management, operator's management, driver management, construction position management, vehicle management, on line correction water volume, continuous production, etc. It can also satisfy the Special requirements of customers, e.g., print all kinds of notes according to

Advantages of System structure:

SIEMENS Special communication card connected by MPI type has been adopted in the upper / lower bit machine communication of our System. The Max. communication speed can reach 12M (now the designed speed is 187.5k), normal product can communicate by RS 232 interface with speed of 9.6K and with weak anti-interference ability. Besides, master-slave type has been adopted in our lower bit machine. The slave Station is fitted on the batcher. All the signals including digital signal and analog signal (weighing sensor) are treated nearby and transmitted to the master plant by PROFIBUC bus unit at the Max. speed of 12M. It is with quick speed, full digital Transmission, uses one bus to replace previous dozens even hundreds control wires, thus make high reliability, easy maintenance and strong flexibility. Universal factories have adopted twice instrument to control ingredient and PLC to control material inlet / outlet logic motion. The method has complicated communication and limitations in Controlling the numbers of weighing scales and the upper / lower machine can not reflect outside motions completely in real time. The reliability and functions of

monolithic machine and PLC are not on the same level. Adopting twice instrument and conveyor may add System error. While our weighing signal enters into weighing module directly through sensor, which can increase System accuracy greatly and is greatly convenient to connect wire and maintain. Display instrument reads data on the bus by industrial communication interface, then displays. It has strong anti-interference and can distribute address according to agreement. It adopts a two-cores shield communication wire and daisy chain, thus realize full digital in real sense. Now, the ordinary used instrument usually receive analog signal, be controlled with monolithic machine program and Potentiometer correction, thus complicated to mark and connect wire

Advantages of System element:

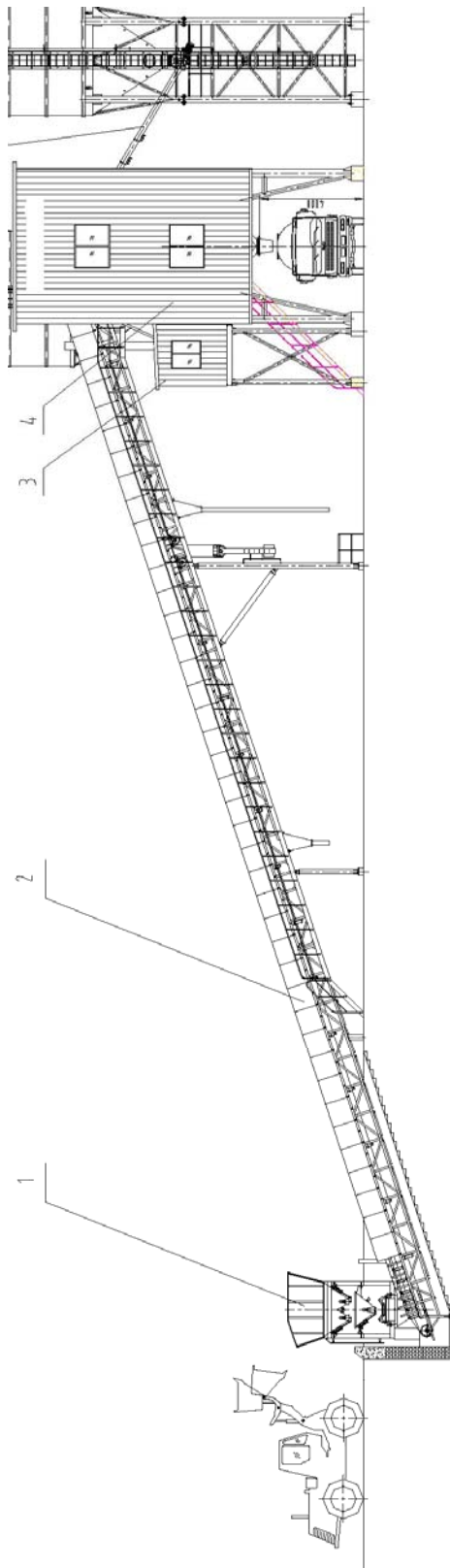
We have adopted SCHNEIDER low voltage elements (advanced GV series motor protector with small installation volume which is convenient for maintenance and wire connection), Siemens programmable Controller (advanced weighing module with CPU, can treat analog signal without occupying the time of master CPU with quick speed and powerful functions, the resolution ratio can obtain 1/65535) in the System. Other elements adopted, such as WanKe terminal, relay, nation industry control Computer from TaiWan YanHua, famous brand weighing sensor with fine Performance and Special shield cable, terminal box, etc., which are advanced products in the world or trade.

Outstanding environmental protection Performance

The vehicle is equipped with imported dust collector for main machine, which lets the dustproof result of main building reach Europe Standard. Excellent low noise design brings brand new sense for the customers.

Besides, the vehicle is also equipped with SICOMA double horizontal shaft mixer. We have adopted world-famous brand products for the key elements which supply powerful guarantee for vehicle running.

Elegant form and exquisite appearance let the vehicle obtain the harmonious unity in technology and art.



Main Technical Data of GR2HZS120 Concrete Mixing Plant

tbNo.	Content	Technical Data	No.	Content	Technical Data
1	whole vehicle		4	Slant belt conveyor	
	Rated Output	120 m ³ /h		Belt width	1000 mm
	Discharge height	4000 mm		Belt speed	2 m/s
2	Concrete mixer		4	Power	37 kW
	Model	MAO3000/2000		Tilt angle	±5=18°
	Charge capacity	3000 L		Max. theoretical conveying capacity (18 °)	560 m ³ /h
	Discharge capacity	2000 L	5	Batching range and accuracy of aggregate	0 ~ 3000kg/ ± 2%
	Rated power of motor	2X37 kW		Batching range and accuracy of cement	0 ~ 1000kg/ ± 1%
3	Aggregate batcher			Powder coal ash weighing range and accuracy	0~500kg/±1%
	Capacity and number of storage hopper	20 m ³ X4	5	Batching range and accuracy of water	0~500kg/±1%
	Capacity and number of weighing hopper	2.0 m ³ X4		Batching range and accuracy of additive (liquid)	0~30kg/±1%
	Max. weighing value	3000 kgX4	6	Spiral conveyor	7.5 kW 11 kW
	f^Belt width	1000 mm		M^ Model	4> 219 273 < >

Belt speed 1.25 m/s
im Power 11 kW

Power angle 30°

	Rated output	240 m ³ /h		Length	8000mm
	Powder silo			Rated output	40t/h 80t/h
7	Store capacity	4X200t	10	Water supply system	
	Middle aggregate store hopper			Flow	50m ³ /h
8	Capacity	4.1 m ³		Travel	32 m
	Gas path system			Power	7.5 kW
9	Model of air compressor	TA-120A	11	Additive(liquid) supply system	
	Actual exhaust value	1.5 m ³ /min		Flow	6.3 m ³ /h
	Rated pressure of exhaust	0.8 MPa		Travel	21 m
	Power of motor	11 kW		Power of additive pump	0.75 kW
	Capacity of gas holder	0.3+0.3m ³	12	Total power	200 kW
				Total weight	

Relative Executive Standard of GR2HZS120Concrete Mixing Plant

1. GB/T (replace GB10171-1998 , GB10172-1988) concrete mixing plant (tower)
2. GB4477 the Method of Performance test for concrete mixing machine
3. GB/T 9142 Concrete mixer
4. GB/14902 Pre-mixing concrete
5. GBJ107 Standard of concrete strength inspection & evaluation
6. GBJ17 Regulation for steel structure design
7. JB/T834 Technical requirement of tropical type low voltage electric equipment
8. GB10595 Technical requirement of Belt conveyor
9. GB14249.1 Safety requirement of electronic weighing apparatus
10. JG/T5093 Product classification & model of construction machinery & equipment

The List of Weary Part for GR2HZS120Concrete Mixing Plant (Mechanical Part)

No.	Name	Type (code)	Qty per unit	part
1	Ladder bottom lining plate		2	Mixer
2	Diamond bottom lining plate		4	Mixer
3	Underside drawknife		1ch	Mixer
4	Side drawknife			Mixer
5	Middle drawknife			Mixer
6	Lining plate		2	Middle aggregate
7	Solenoid valve	(AC220)		Batcher

Spare Part for GR2HZS120Concrete Plant in Two Years (Mechanical Part)

No.	Name	Type (code)	Qty per unit	Part	Manufacturer
1	Solenoid valve with two Potential five way	BD520-D	1	Additive weighing and feeding System	China
2	Air cylinder of discharge gate with batcher	QGBQ100-300P3-FB5 DW-KF1-S	2	Batcher	China
3	Air cylinder of middle aggregate storage	QGBQ125-280MP1-FA 5DW-K1	1	Middle aggregate storage	China
4	Pneumatic triplet	QLPY3-25-06-37-TZ	1	Air line System	China
5	4> 273 middle hanging shaft		2	4>273 spiral conveyor	SICOMA
6	4> 219 middle hanging shaft		2	4>219 spiral conveyor	SICOMA
7	Fluidization pads	1100	6	Powder silo	WAM
8	Cartridge of silo-top dust collector	SILOTOP V2 Dust collector model: SILOTOP V2	12	Dust collector of powder silo	WAM
9	Cartridge of dust collector with main machine	FC2J13 Dust collector mode: FC2J13	3	Dust collector of main machine	WAM
10	Supporting roller A of horizontal belt machine with batcher	O89 / L=370	10	Batcher	
11	Supporting roller B of horizontal belt machine with batcher	O89 / L=1150	2	Batcher	
12	Supporting roller A of slant belt	O108 / L=380	10	Slant belt conveyor	

conveyor				
13	Supporting roller B of slant belt conveyor	O108 / L=1150 2	Slant belt conveyor	
14	Air filter of air compressor	Air compressor model: 1 TA-120 A	Air compressor	China
15	Oil filter of air compressor	Air compressor model: 1 TA-120 A	Air compressor	China
16	Plastic flexible pipe (with steel wire)	<t>250 / L=2000 1	Dust collector of main machine	China
17	Approach switch of discharge gate with mixer	SCTF-3 1	Concrete mixer	SICOMA
18	Straight strip of discharge gate with mixer	SCTF-1 8	Concrete mixer	SICOMA
19	Are strip of discharge gate with mixer	SCTF-2 2	Concrete mixer	SICOMA
20	Liner of mixer	1* 1 set	Concrete mixer	SICOMA
21	Solenoid valve	220V, 50HZ 1	Concrete mixer	SICOMA
22	Oil pressure cylinder of discharge gate	SCTG-5 1	Concrete mixer	SICOMA
23	Air cylinder of butterfly valve with additive scale	GTX.83 1	Additive weighing and feeding System	China
24	Rubber hopper	0140126C0001 1	Material gathering hopper	

The above table IS only as reference.