

I. The main usage of Zhongzhou briquette machine

Zhongzhou Briquette Machine is an equipment which used on pressing briquettes from various waste mineral materials, it main used for materials as follows industry:

1. Metallurgy industry: apply to press briquettes from non-ferrous metal and ferrous metal' mineral fines which used on re-smelting, such as sludge,oxide scale,dust-ash,iron fine, raw mineral powder,manganese ore powder and silicon manganese.
2. Coal industry: apply to press briquettes from materials such as coal dust ,coke fines,slime and middlings coal which used on industrial boiler,civil boiler and etc.
3. Building industry: apply to press coal briquettes instead of lump coal at lime factory.
4. Chemical industry: apply to press coal briquettes instead of lump coal to make coal gas ,save cost.
- 5 refractory industry: Apply to press briquettes from various refractory materials.
- 6.heat and power plant: apply to press desulphurization gypsum briquettes which used on producing lime.

Any fine materials that need to be smelted in furnace, it should be completed by briquette machine.

II. Diagrammatic sketch and technical data of Zhongzhou briquette machine

1. Models of briquette machine

ZZXM-2	ZZXM-4	ZZXM-6	ZZXM-8	ZZXM-10
ZZXM-15	ZZXM-20	ZZXM-30	ZZXM-40	

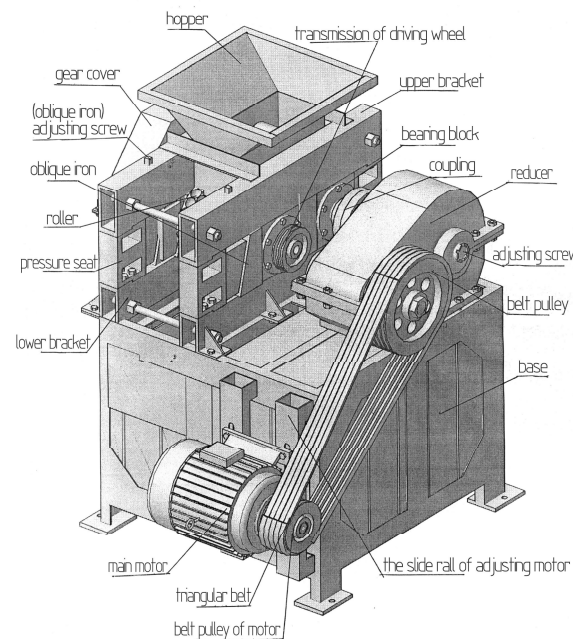
2. Technical data of briquette machine

Model Performance		ZZXM-2	ZZXM-4	ZZXM-6	ZZXM-8	ZZXM-10	ZZXM-15	ZZXM-20	ZZXM-30	ZZXM-40	Instruction
Production	Hour	1-2t/h	3-4t/h	6t/h	8t/h	10t/h	15t/h	20t/h	30t/h	40t/h	According to material
	annual output	5 thousand ton	10 thousand ton	20 thousand ton	25 thousand ton	30 thousand ton	50 thousand ton	100 thousand ton	200 thousand ton	300 thousand ton	For working 20 hours per day
Roller width		200mm	250mm	240mm	220mm	300mm	336mm	400mm	500mm	400×4	
Roller diameter		290mm	360mm	400mm	450mm	500mm	650mm	750mm	850mm	750×4	
Power		5.5kw	7.5-11KW	11-15KW	15-18.5KW	18.5-30KW	22-45KW	30-55KW	55-90KW	132-160KW	Depended on materials
Rotary speed of main spindle		27r/min	18r/min	15r/min	15r/min	12r/min	12r/min	11r/m	10r/min	10r/min	
Reducer		ZQ325	ZQ350	ZQ400	ZQ500	ZQ500	ZQ650	ZQ850			standard configuration
			ZQ400	ZQ500		ZQ650	ZQ750		ZQ100 type	ZSY315 type	Reinforced (mineral fines)
Total pressure			15	20	30	35	45	55	70	75	(T)
line force of roller surface			0.5	0.5	0.6	0.8	1	1	1	1	(r/min)
Pressure type		Mechanical	Wedge papilionaceous spring type	Wedge papilionaceous spring type	Wedge papilionaceous spring type	Interchangeable type of hydraulic and mechanical papilionaceous spring	Interchangeable type of hydraulic and mechanical papilionaceous spring	Interchangeable type of hydraulic and mechanical papilionaceous spring	Interchangeable type of hydraulic and Mechanical	Hydraulic type	patent

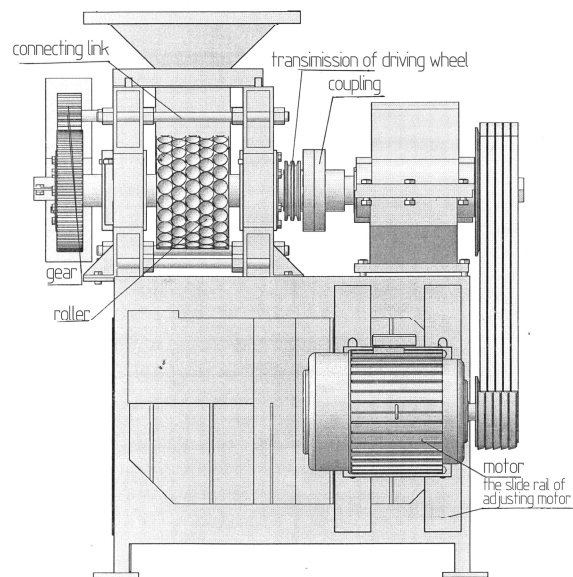
Roller material	65Mn	65Mn	65Mn	65Mn	65Mn	65Mn	65Mn			
		9Cr2Mo	9Cr2Mo	9Cr2Mo	9Cr2Mo	9Cr2Mo	9Cr2Mo	9Cr2Mo	9Cr2Mo	forged
		wear-resistan t alloy	wear-resis tant alloy	wear-resista nt alloy	wear-resista nt alloy	wear-resista nt alloy	wear-resista nt alloy			patent (wear-resisten t)
Roller assemble		Split-clamp type	Split-clam p type	Split-clamp type	Temper assembly	Temper assembly	Temper assembly	Temper assembly	Temper assembly	patent
Gear assemble		Linear assembly	Linear assembly	Linear assembly	Temper assembly	Temper assembly	Temper assembly	Temper assembly	Temper assembly	patent
Sealing class		double seal	double seal	double seal	double seal	double seal	double seal	double seal	double seal	
Heat treatment		52-58°	52-58°	52-58°	52-58°	52-58°	52-58°	52-58°	52-58°	
Structure form	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two-roller single pressure	Two shaft four roller	
		Four-roller double pressure	Four-roller double pressure	Four-roller double pressure	Four-roller double pressure	Four-roller double pressure	Four-roller double pressure	Four-roller double pressure	install Selected	patent (four rollers)
Main spindle	45#steel	45#steel thermal refini ng	45#steel thermal ref ining	45#steel thermal refi ning	45#steel thermal refi ning	45#steel thermal refi ning	45#steel thermal refi ning	45#steel thermal refi ning	45#steel thermal refi ning	
Briquette size	Be decided by user	Be decided by user	Be decided by user	Be decided by user	Be decided by user	Be decided by user	Be decided by user	Be decided by user	Be decided by user	30-60mm is in common use
Hydraulic pump station type (Mpa)					DBD0.8/series					
rated	none	none	none	10MPa	10MPa	13MPa	16MPa	20MPa	25MPa	

III. Diagrammatic sketch of briquette machine

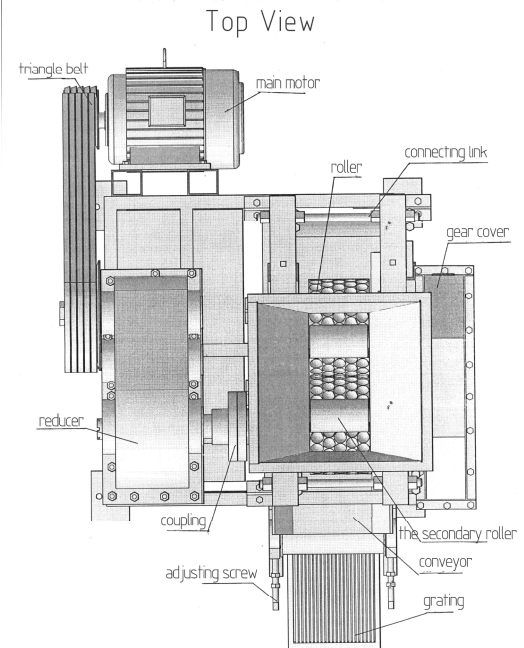
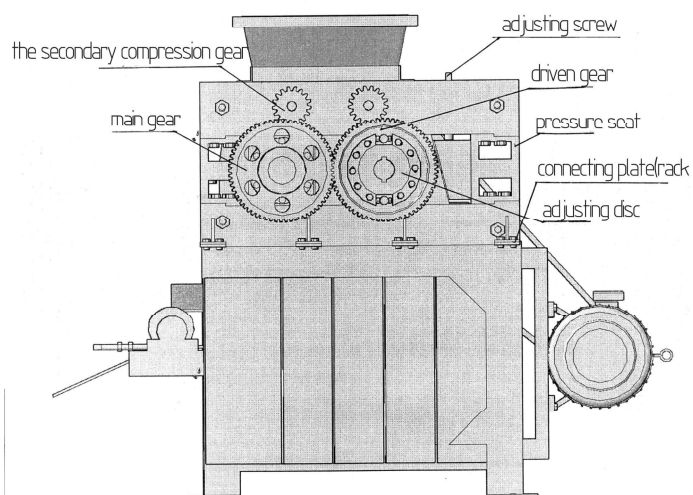
1. ZXM-2 ZZXM-4 ZZXM-6 ZZXM-8



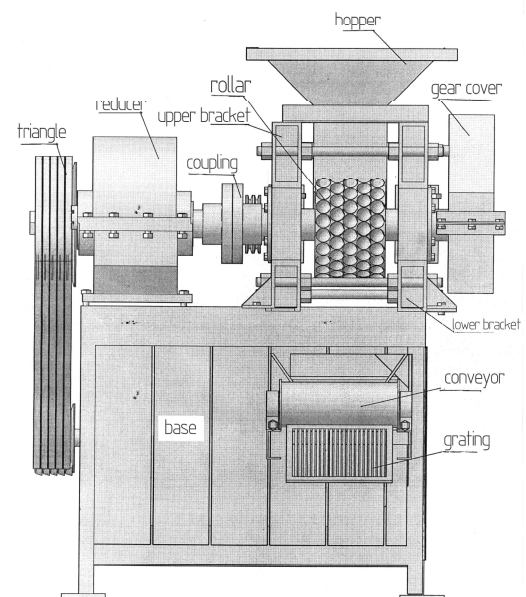
Front View



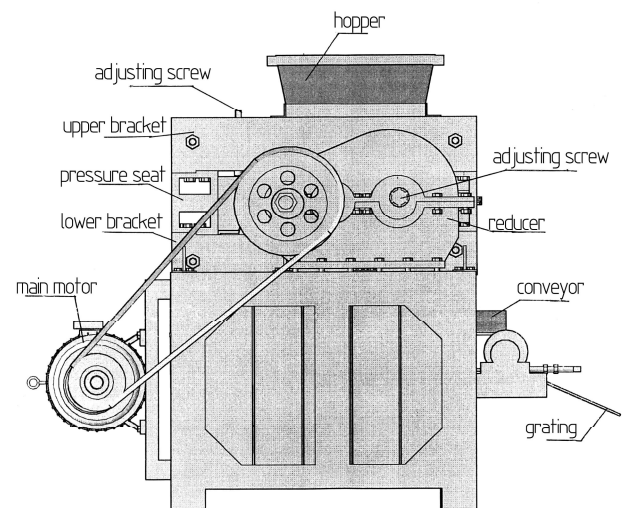
Left View



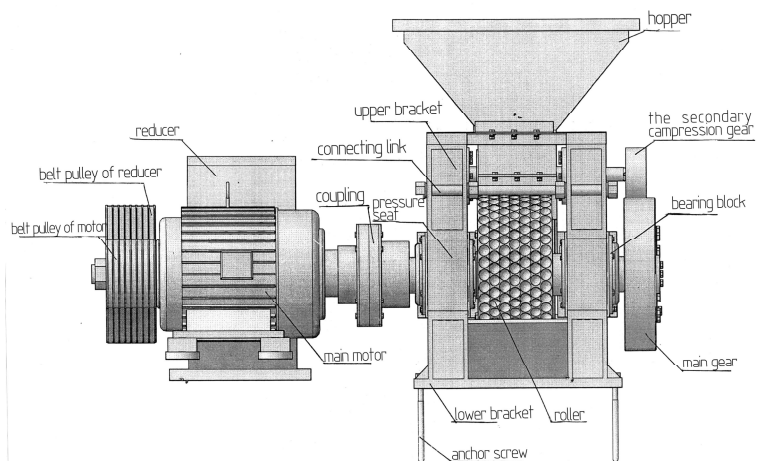
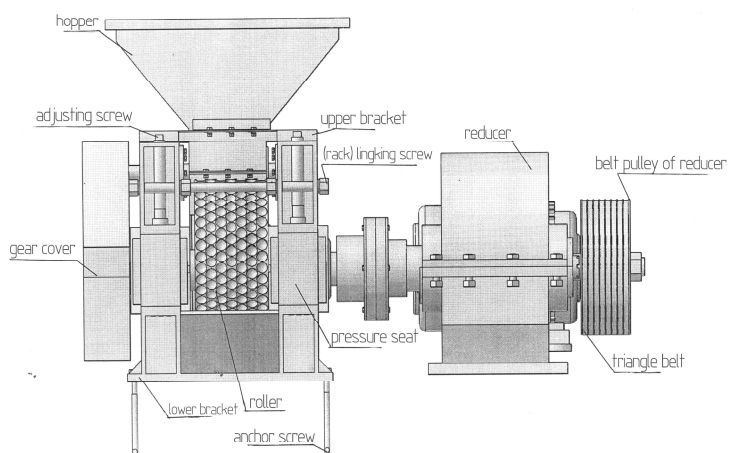
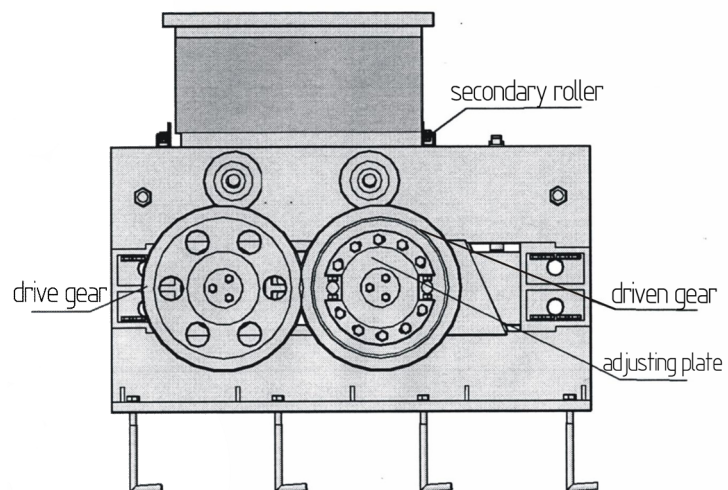
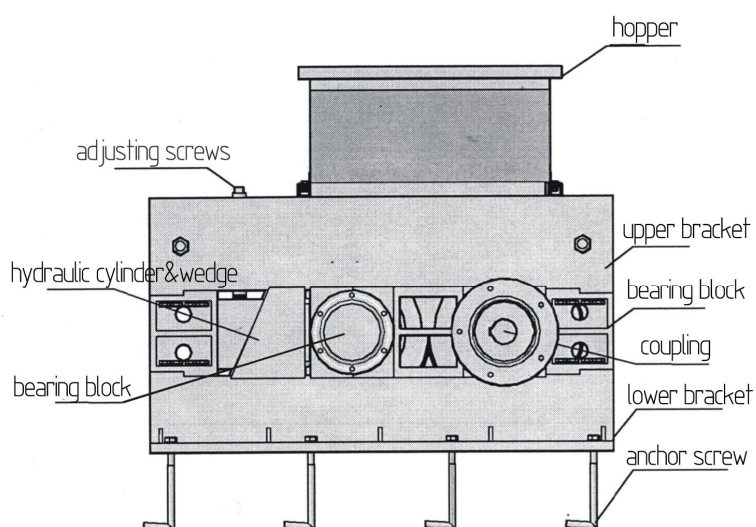
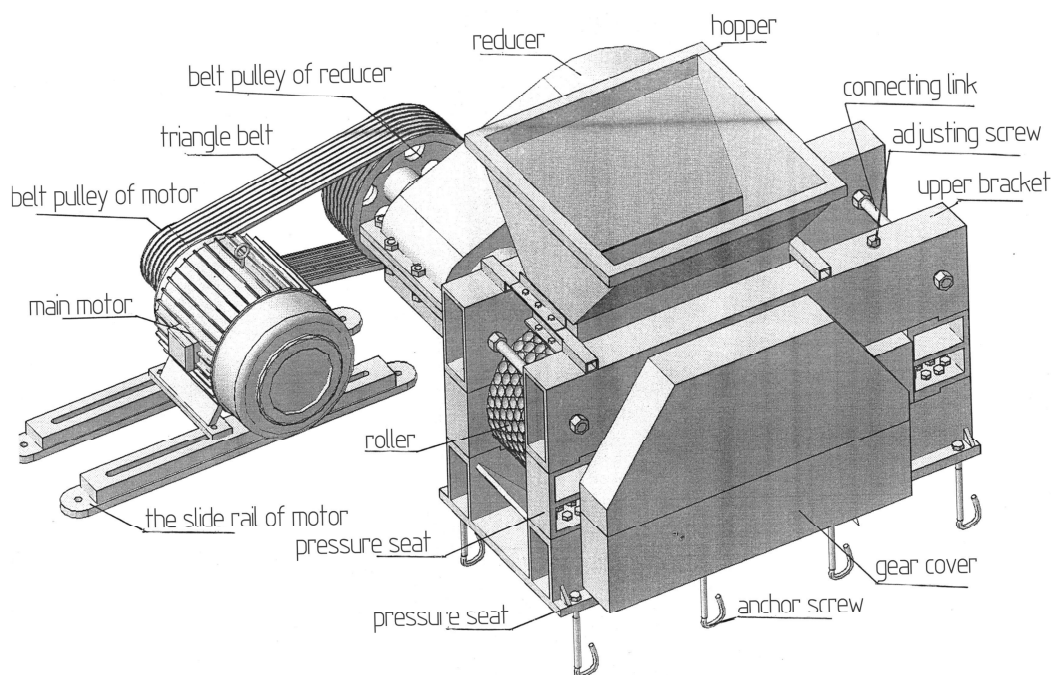
Rear view

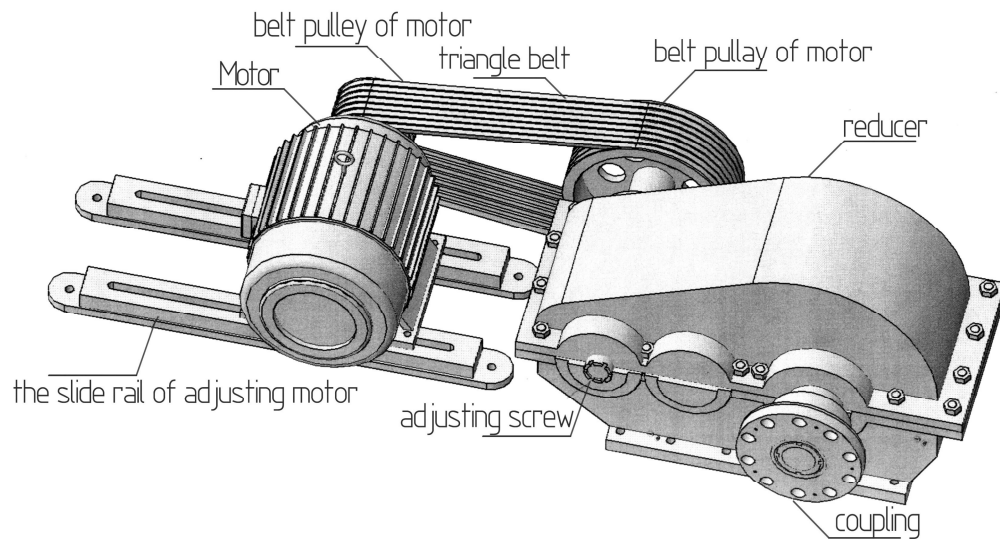


Right View



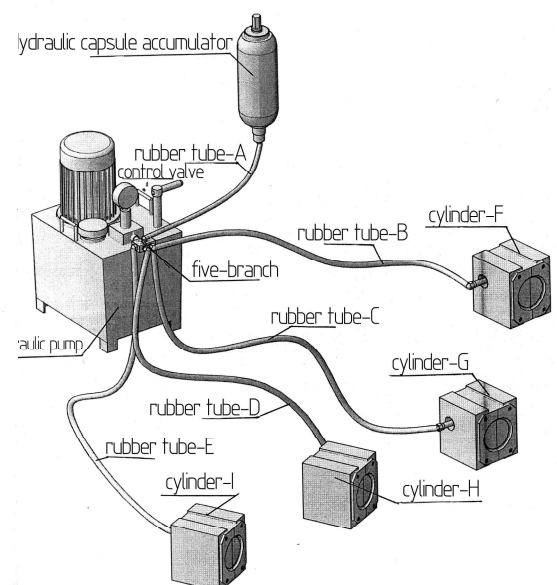
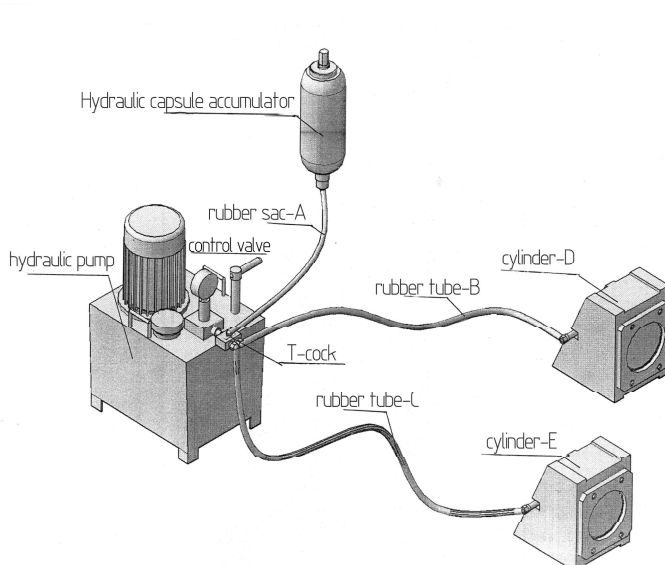
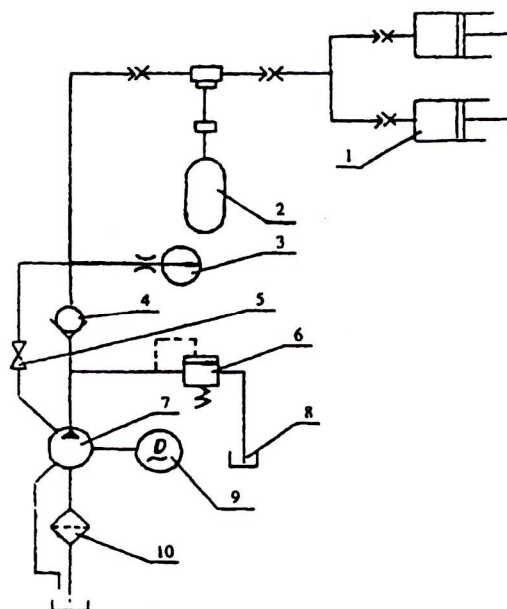
2. ZZXM-10 ZZXM-15 ZZXM-20 ZZXM-30 ZZXM-40





2.1 hydraulic part

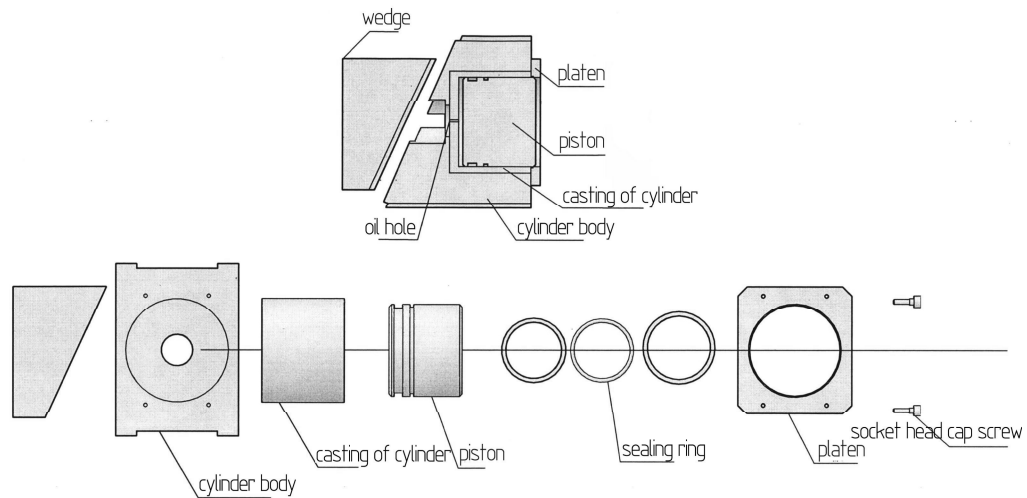
Hydraulic system (diagram 1)



ZZXM-10, ZZXM-15, ZZXM-20

ZZXM-30,ZZXM-40

Hydraulic cylinder(diagram 2)



IV. Installation and commissioning

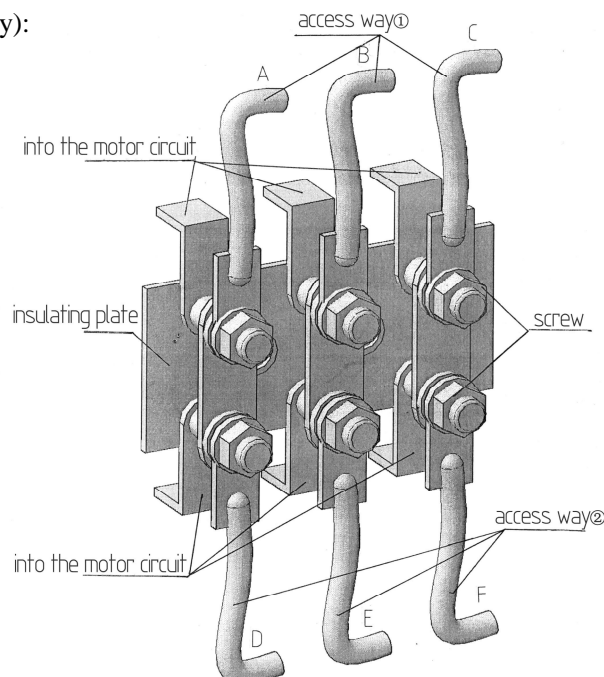
Installation of briquette machine

1. The user must build foundation according to the foundation drawings of briquette machine provided by our factory, (some models ZZXM-2 ZZXM-4 ZZXM-6 ZZXM-8 no need any concrete foundation, it can simple to be precast four pile foundation for fixing supporting feet).
2. After foundation concrete is solidified, using hoisting equipment to lift briquette press machine and put it in level, and then the motor and reducer be put on the light position, confirm the correct position with a pad iron .
3. Put the anchor bolt in the arranged buried hole until the nut fully fit over the bolt , then put the concrete.
4. Connecting hydraulic oil pump with briquette machine. The connection method is as follows:

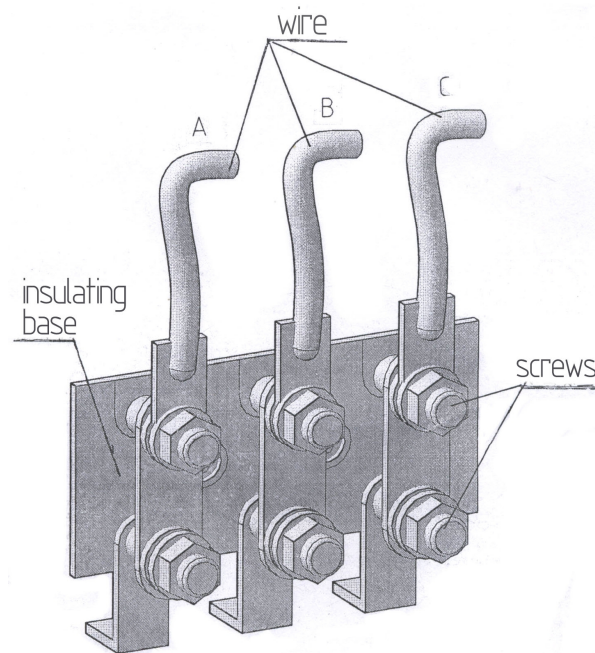
Tips: rubber tube length A 510mm, B2100mm, C2100mm, D2100mm, E2100mm

5. Connecting power about main motor on briquette machine, the connection method is as follows

(Just choose one way):



6. Connecting power about motor on hydraulic oil pump, the connection method is as follows:



7. After installation, check every part carefully and make sure the exactness and fastness.

The commissioning before production normally

The process of commissioning follows below steps:

① Adjust hydraulic oil pump

The pressure scope is 8-16MPa. In order to improve the density and reliability of the briquettes, it is necessary to increase the oil pressure, but the highest oil pressure is below the specified value in the instruction for fear of overloading and damaging the machine part. Please see details of adjustment and operation in the instruction book of the oil pump.

② Adjust the gap between the double rollers

The gap is usually 2-3mm. Firstly, release the oil pressure, move the driven shaft box back the crowbar and take out the bottom plate. Then adjust the gap according to the thickness of the original bottom plate and make sure the equal thickness of both sides.

③ Adjust the misplacement of the rollers

The misplacement has two kinds: circle direction and axial direction

● The circle direction misplacement

There is an adjusting plate on the driven shaft for the adjustment of the circle direction "misplacement". Firstly, loosen the circle bolt, screw home the terminal strand by manual spanner according to the direction and degree of the misplacement. Then, screw home the circle bolt on the

adjusting plate and plug the rest board to adjust.

●Adjust the axial direction misplacement

Loosen the top of the adjusted bearing block, plus minus the distance piece according to the displacement. Then, crew down the gland bolt. This misplacement rarely happens for the machine has been rightly adjusted.

Testing running on briquette machine

1. Firstly, tighten the anchor bolt, remove the rubbish on the machine, fully run the retarder, open out the lubricating oil of the gear box(adding diesel until submerge a half of gear)
- 2.Checking the degree of tension of vee belt.
- 3.Connect the electricity and electric appliances by professional electrician, don't forget to install earth wire,confirm again if every part is correct, then start up motor, when confirm the direction rotation is correct, let briquette machine work without materials for 30 minutes, checking if there are any abnormal noise and heat,if there are, check it at once.
- 4.When everything is Ok, prepare 300KGS drying coal materials and add 2% waste diesel oil,or add some fine sand, put these materials into hooper of briquette machine, not put full, these materials will polish rollers on briquette machine(now no need start oil pump), these process need do for 5hours, then put your raw materials and begin production normally.

The steps of starting up for production normally

The briquette machine go into production normaly, first start the main motor,after equipment run completely (about 5-10seconds), start motor of oil pump, the hydraulic pressure is operated by controlling valve. When pressure reach 8-10MPa,feed raw material into hopper to produce normally.

Requirement on feeding raw materials

The required size of raw material less than 1mm should be controlled between 30-40%, and that between 1 mm to 2mm grain size should be 30-40%, The maximum size of materials are no more than 3mm should be about 20%.

The moisture should be 8-12%(the quantity of moister have a great influence on briquettes, which all different for water more or less, please especial not that be sure the water content evenly.

In order to avoid damage of the roller and shaft that material should never have allowed with iron

or other high hardness lumpy materials.(briquette production line)

Binder and other additives(eg. Desulfurizer) should be prepared by user that according to the kinds of coal and its using environment to preparing process(or supplied by the supplier through consultation)

V. Requirement of power distribution on briquette machine

1. The capacity of low tension transformer must be higher than the power capacity of briquette machine.
- 2.The distance between low tension transformer and the power utilization equipment should be within in the required range.
3. The wire of main power should be greater than the total load as the standard calculating.
- 4.Every electro-region on full line equipment must be installed ground connection as nationals standard.
5. All installation and operation of al electro-regions must be operated by professional electrician.
6. The electric appliances self-contained by user must be installed active protection by professional electrician and must match the device parameter provided by manufacturer.
7. For the matching electric appliances provided by supplier, user should arrange the professional electrician for the arrangement, connection and operation.

VI.The repairing and trouble shooting of briquette machine

1.The maintenance,repairing and trouble shooting

There is a need to maintain and check the whole machine in daily use.Please strictly follow the check requirement stated in the first chapter by checking the bolt, oil mass electrical machine,bearing heat,triangle belt and oil cylinder pressure.Please stop the machine immediately when founding the pressure changing by temperature changing and petrol dripping and the petrol dripping of the oil pressure system in running. Start the machine after repairing the petrol dripping.

Now matter how careful operation, besides the spare parts of the roller and bearing, the parts mainly be covered by dust. So it is necessary to check some parts. If possible, check machine three months or half a year by the step of checking-running-checking to know condition of all parts.

The methods of checking at fixed time:1 clear away dust on the machine, 2.open machine,clean and check bearing, screw parts,triangle backing block,feed nozzle and change the bearing lubricating oil 3. Remove bearing cap of roller and check wear condition of the bearing 4.remove the tuyere cap of the retarder and check the wear condition of gearing and intermeshing 5 Check the foundation bolt and screw.

2. The normal trouble shooting

No.	Trouble	Causes and solutions	Remark
1	The misplace ment of briquette socket's cycle direction	A loose and adjust bolt, ten screw down	
2	Unable to reach high oil pressure	A clear blockage on the input let, then cleanout B Change deformed seal packing C Deal with the rest according to the detailed instruction of DBD0.8 oil pump	
3	Low intensity or too much breaking	A adjust the feed quatity B check and adjust oil pressure C adjust moisture of raw material D check condition ,granularity and agglomerant	
4	Rough surface of briquettes	A dry matter polishing B adjust the feed quantity C adjust the mucous spiral vortex and clear completely	
5	Too much powder in final briquettes	A check the wear of the triangle belt B check the wear of roller C adjust the feed quantity D adjust oil pressure	

VII.The lubricating and maintenance of briquette machine

Lubricating

Add the gear oil to the gear of the opening gear box at least 60mm, immerging gear.

Change the consistence grease (same type) every three months or add grease by grease by grease gun

Add the gear oil to the retarder for about 60mm, immerging gear.

VIII.The strict notice of briquette machine in using

1. No slab or stone etc hard things in the machine. Users take responsibility of the damage by this reason.
2. Keep the processed materials granularity within 3mm, or it will affect the forming and reduce the working life of machine
3. Starting machine with heavy load is strictly prohibited. The open and adjustment of machine by non-technicians is strictly prohibited.
4. Maintain machine regularly and make sure the fully supply of oil to retarder and bearing block.
5. When machine is running,The up- and -down and opening, repairing and maintenance of machine are strictly prohibited
6. The professional technicians and electricians are required.
7. Keep the moisture of materials in 8-10%, too high moisture will cause the difficulty in demoulding and low pressure, which will affect production.

IX.The wearing parts

- | | | |
|-------------------|---------------|---------------|
| 1.roller bearing | 2.rollers | 3.feed nozzle |
| 4.triangular belt | 5.nylon stick | 6. oil seal |

X.The user's notice

There is only the foundation drawing provided with the machine, no other drawings, the spare parts are provided according to users's need. Please put order in advanced.

Please feed back your opinions to us in any time. We will study on it and make improvement.

please keep the brand mark, telephone number,character as they are,no altering and tearing,or we will not provide repairing , returning and changing services.

We will reward the new customers introduced by the old customers. It depends on condition.

XI. Safety marking instructions



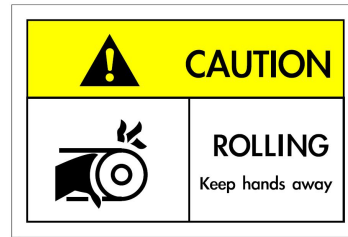
Set earth wire



Motor rotation direction



Don' put hands into hopper



Be aware of belt running



Be aware of electric shock



Must wear safety helmet

Postscript

To users:

The contents of the documents series mainly come from the actual experience of technical departments in our plant ,actual production experience of our clients and professional theories in metallurgy and coal conversion. On behalf of the technical departments of our plant , we are obliged to our clients, friends, experts and partners who have contributed a lot to the development of our plant, all friends are welcome sincerely to visit us for common development.