

GN Decanting Centrifuge

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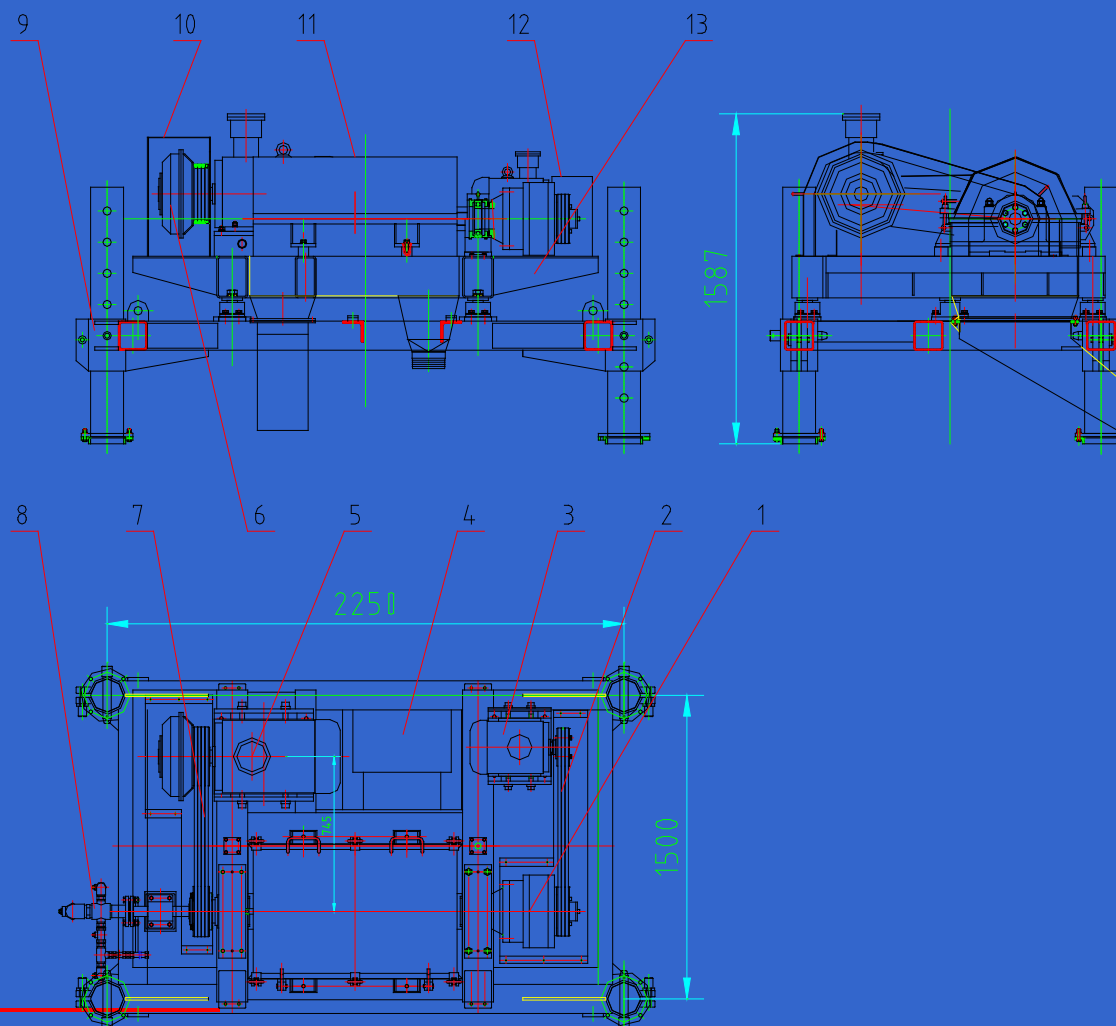
1. Technical Specification

Model	LWF 450×842N	LWF 450×1000N	GLW 355×1250N	GLW-V 355×1250N
Drum diameter	450mm	450mm	355mm	355mm
Drum length	842mm	1000mm	1250mm	1250mm
Rotary Speed	1800r/min	1800r/min	3200r/min	0~3200r/min (Variable Speed)
Separation factor	815	815	2035	≤2035
Separation point	5~7μm	5~7μm	2~5μm	2 μm(Max)
Main power	22kw-4p	30kw-4p	30kw-4p	37kw-4p
Assistant power	5.5kw-4p	7.5kw-4p	7.5kw-4p	7.5kw-4p
Max capacity	≤40m ³ /h(176GPM)	≤60m ³ /h(264GPM)	≤40m ³ /h(176GPM)	≤40m ³ /h(176GPM)

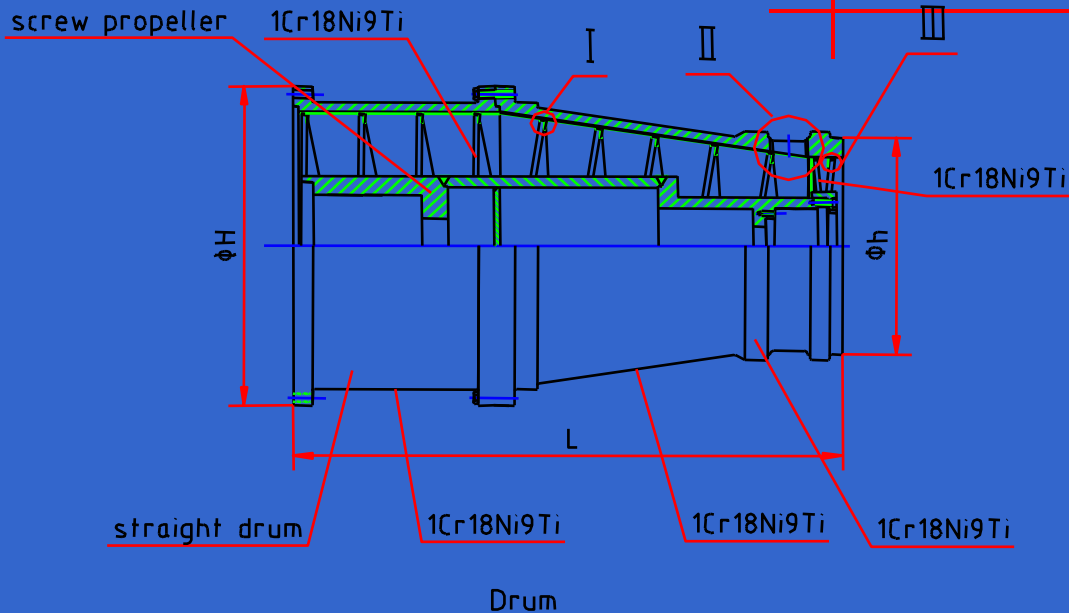
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- **Remarks:**
- 1, Southwest Petroleum University Technology Support.
- 2, (Kansai & Cosco) brand epoxy zinc-rich anticorrosive paint & coating.
- 3, All link bolts SS304
- 4, FAG Bearing
- 5, Eletrical Components: SIEMENS/Schneider/CHINT
- 6, Screw propeller & Solids Discharge SS304 coated with Tungsten Carbon Alloy Material or Ring
- (High Abrasion-Resistant Material)
- Note: Refer following pages for more info.

2 .General Drawing and Material Construction



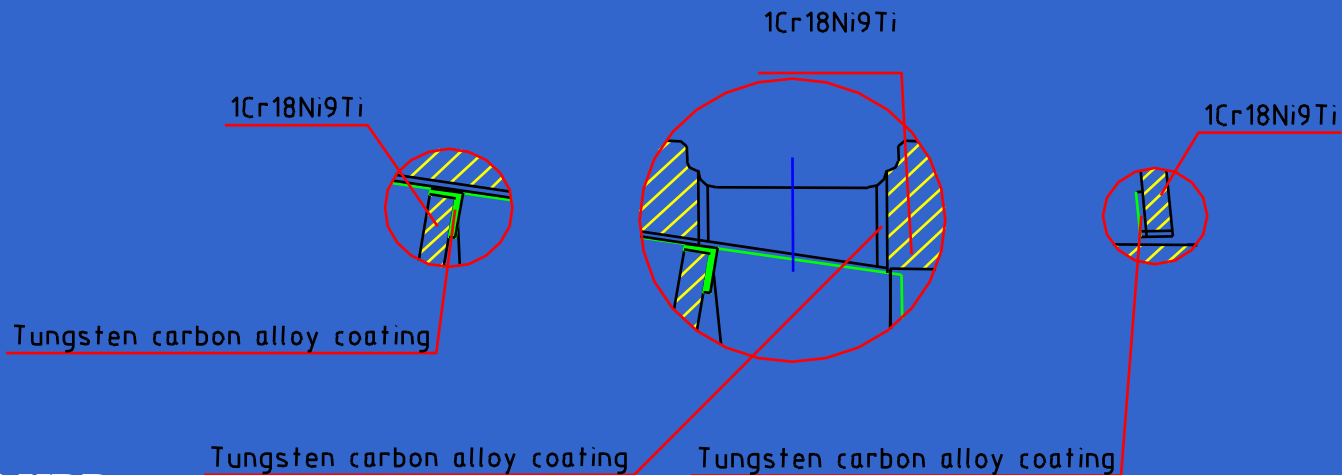
1	Gear Unit	1pc	
2	Assistant motor belt	3pcs	Spare parts
3	Assistant motor	1pc	
4	Control cabinet	1pc	SIEMENS/Schneider/ CHINT
5	Main motor	1pc	
6	Hydraulic Coupler	1Set	
7	Main motor belt	4pcs	Spare parts
8	Inlet manifold assembly	1set	SS304 Material
9	Bracket & Skid	1pc	
10	Main motor cover	1pc	
11	Collecting box assembly	1set	SS304 Material
	Drum	1Set	SS304 Material
	Screw Propeller	1Set	SS304 Material Coated With Tungsten Carbon Alloy Material
	Solids Discharge	N/A	
	Guard		SS304 Material
	Bearing	2Sets	Germany FAG Bearing
12	Assistant motor cover	1pc	
13	Pedestal	1pc	



I details

II details

III details





Coated
With
Tungsten
Carbon
Alloy

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Processing of Bowl

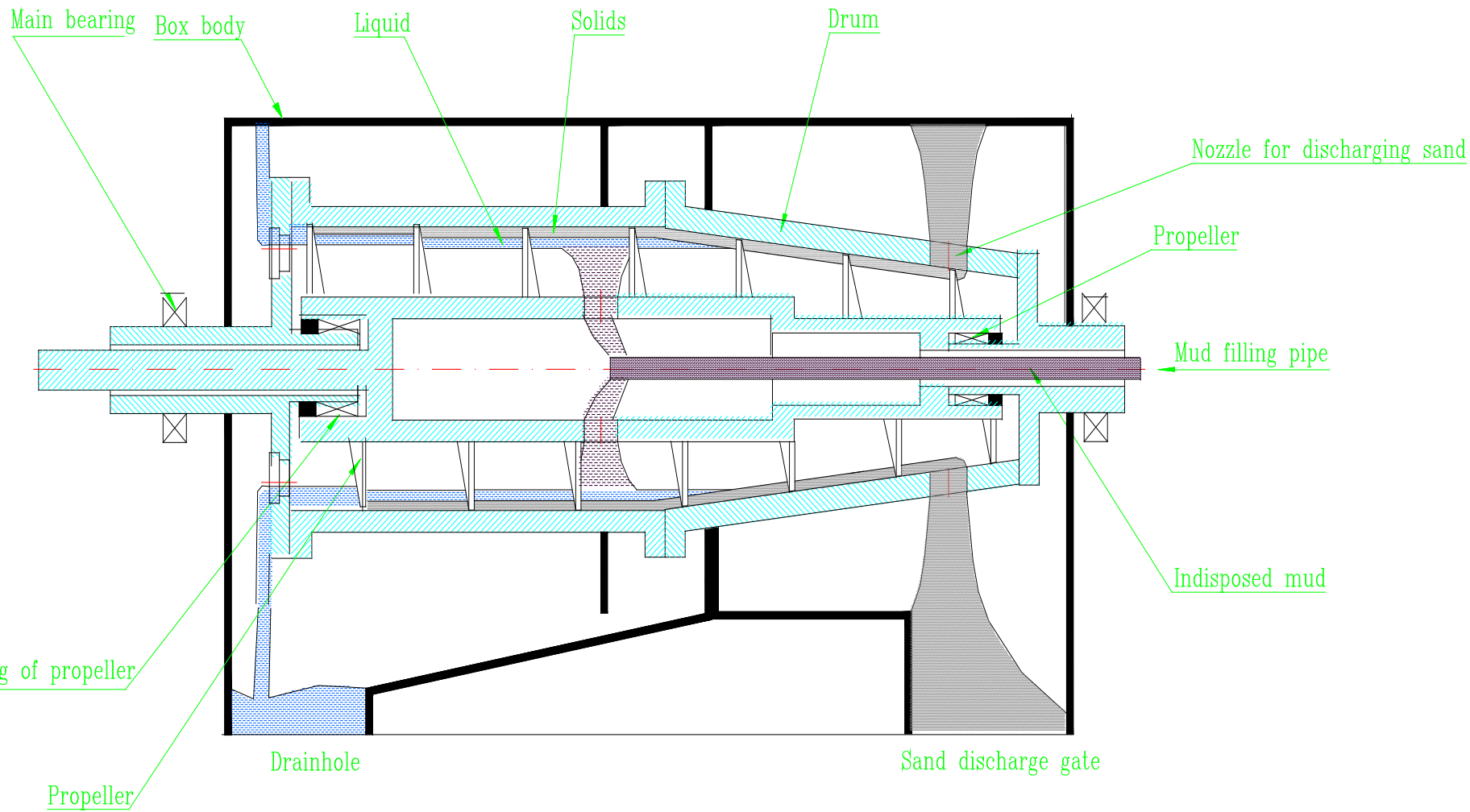


Centrifuge Balance Test

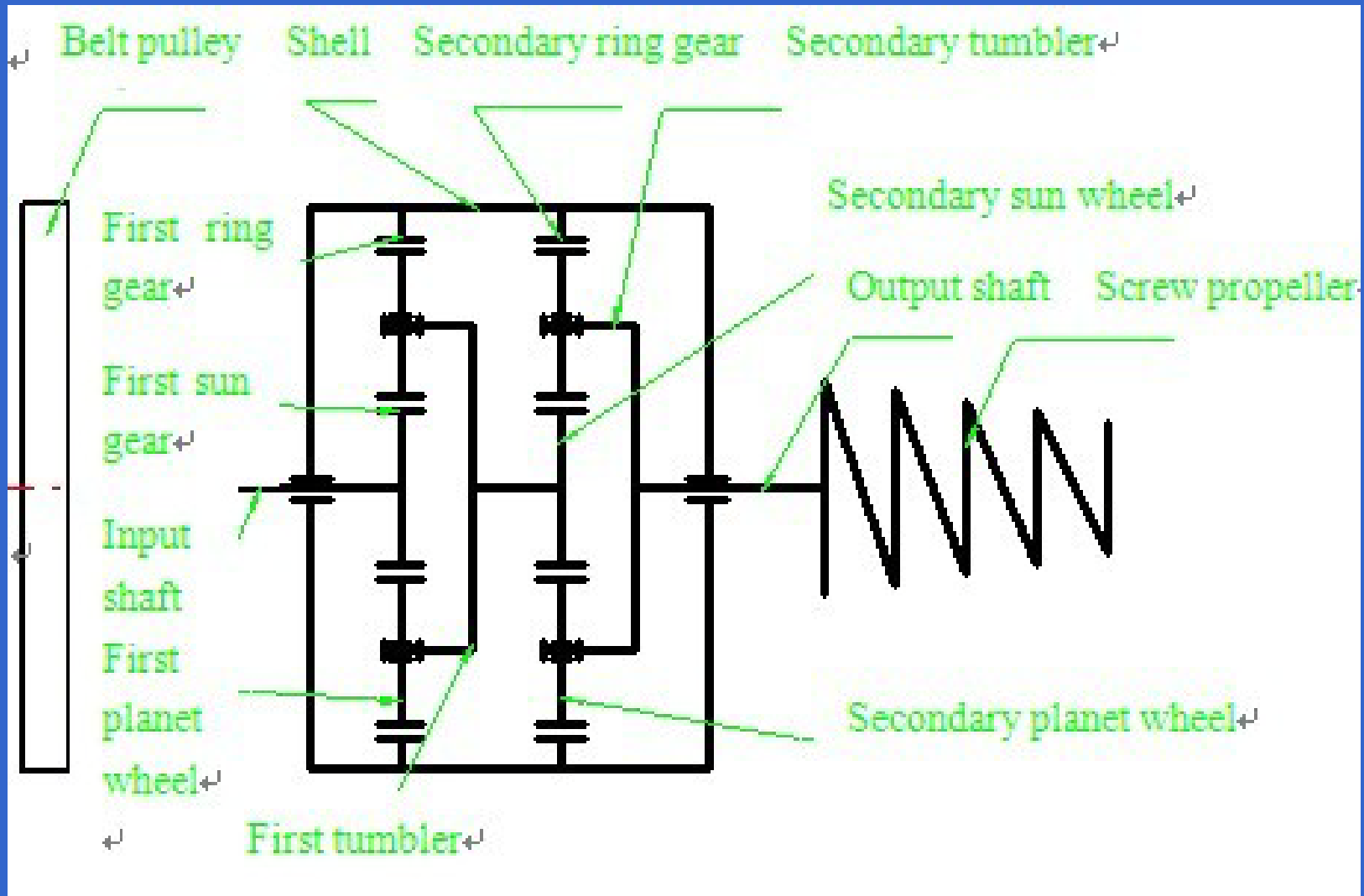


3 . General Working Principle

- Separation of solids and fluid is done in the drum. Its principle is : high-speed rotating drum drive inner mud rotate speedily and then the mud is thrown onto drum's surface to form a fluid circle. Under the centrifugal force, solid sedimentary force in the separated liquid will be several hundred even thousands of times heavier than its own gravity so as to separate the solids from the suspension quickly. The ratio of centrifugal force which the solids have gained and the solid's gravity is called as separating factor. The larger the centrifugal force, the finer the separated solids, so three types of centrifuge can get according to separating factor.



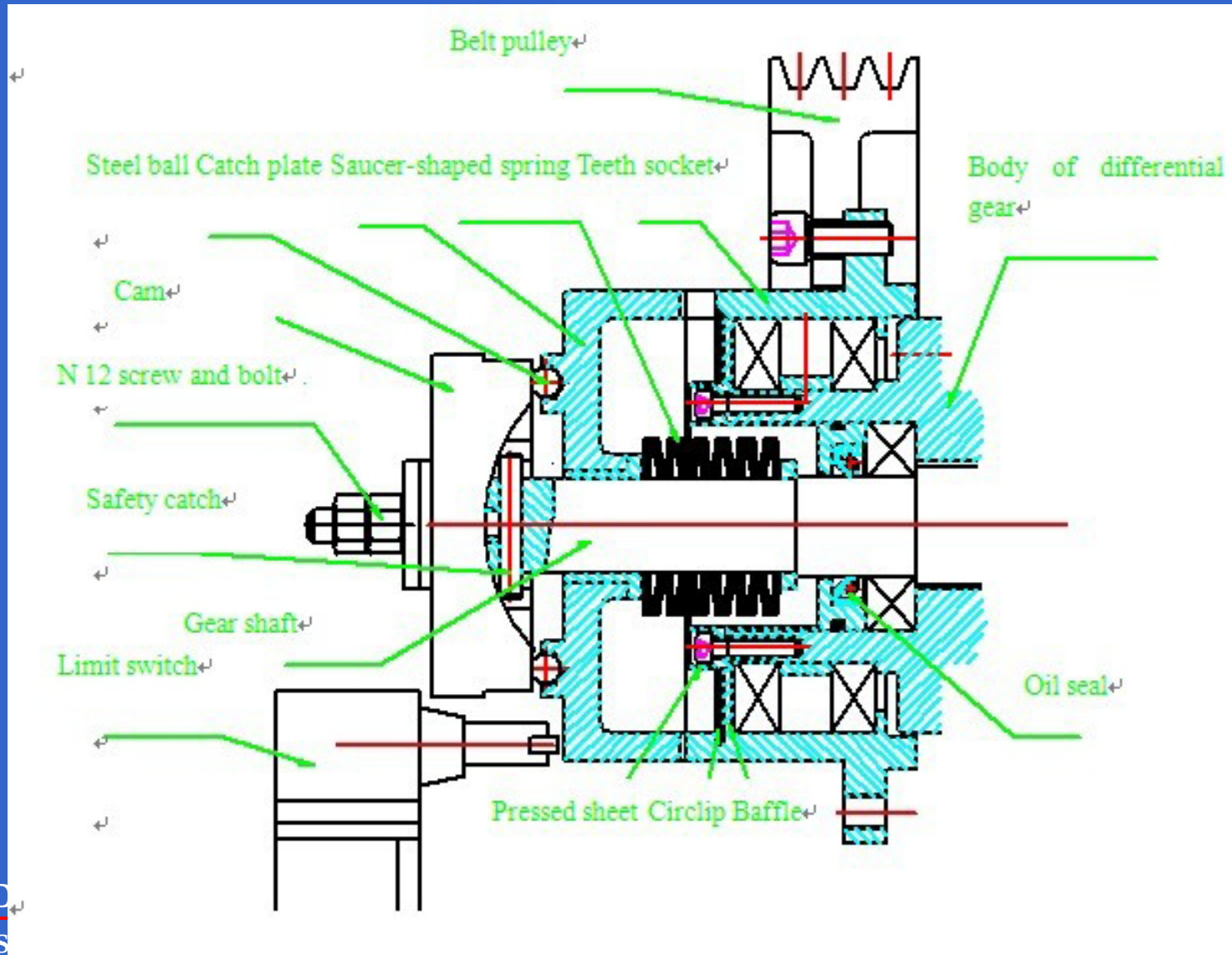
4. Gear box working principle



- Differential gear in fact is a secondary planet slowdown gear, there is ring gear in the shell internal processing. the shell is rotated with the roller, the left belt pulley drives the first sun gear on the input gear rotate, the first sun gear engaged with the ring gear of the shell through the first planet gear, by doing this, the shell rotating speed and the input bearing rotating speed combined into a first tumbler's rotating speed, and the secondary sun gear output the combined speed to the second part, the transmission principle of the second part is the same with the first one, and finally drives the screw propeller rotate through the output bearing.

- In order to protect the differential gear from shattering when the centrifuge is over loaded, security equipment is also installed in the differential gear's left end, security pin is installed on the gear shaft, the dynamic force transmitted from the belt pulley is transmitted to the catch plate through teeth socket ,then sent to the cam, the cam send the dynamic force to gear shaft through security pin. When the torsion torque exceeds the intension of the security pin, the security pin will be cut down and disconnect the transmission so as to make a protection. Note: because of the reliable overload protection of the overload of the centrifuge, limit switch is not installed on the high speed frequency converted type centrifuge.

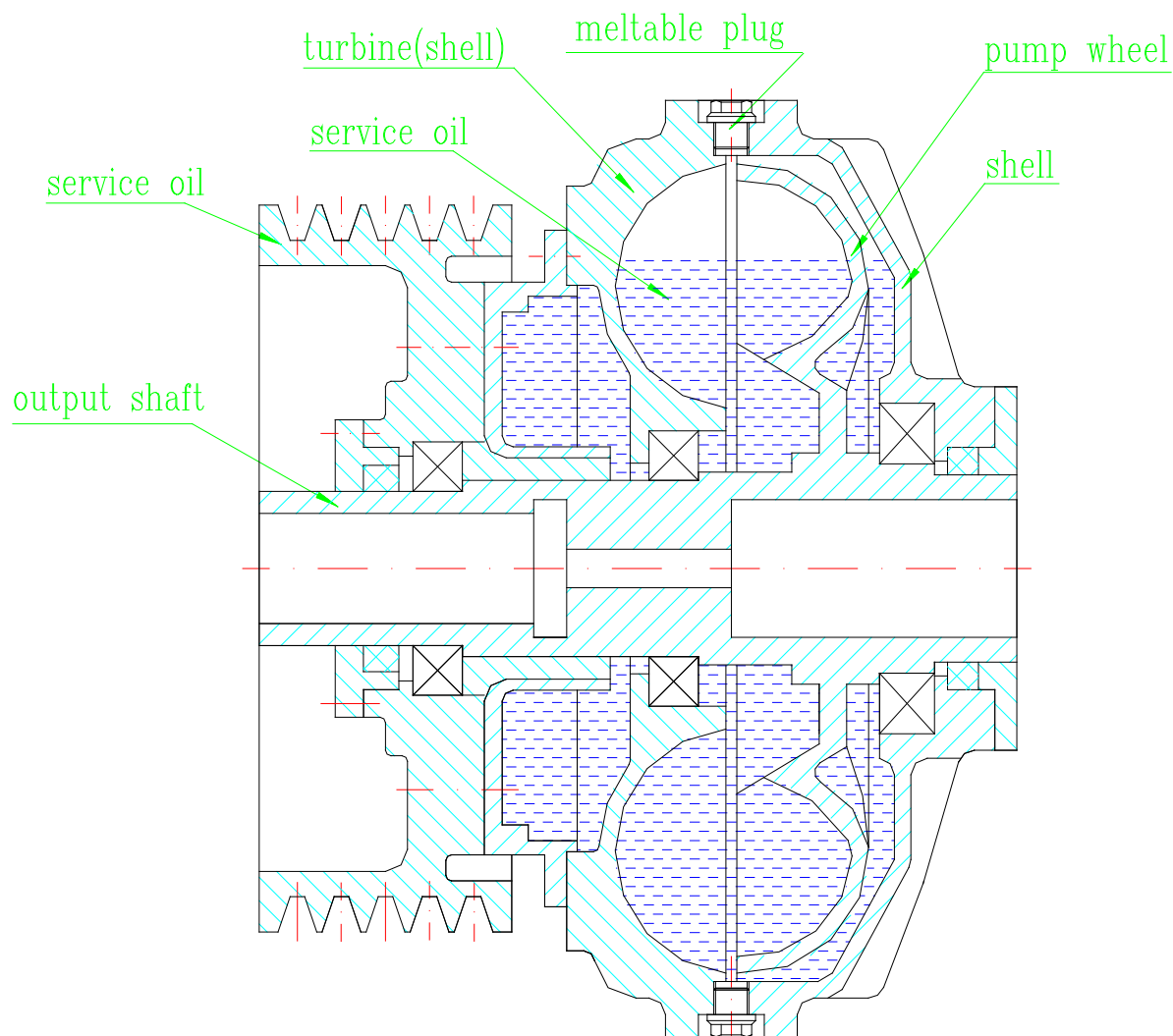
Working principle of the differential gear security device



5) Operation Principle of hydraulic coupler

- Hydraulic coupler is mounted on main motor, it is a hydrodynamic transmission device, it have the function of buffering starting shock, reduce starting current and overload protection. Its structure is in Figure 6, it consists of shell, turbine, pump wheel, input shaft, output pulley; shell is joined with turbine, output pulley connect with shell; input shaft connect with pump wheel, working oil is filled into the shell, pressure emerges in service oil caused by centrifugal force when motor axle drive turbine to rotate, in this way, power is transmitted.

- Motor's no-load starting can achieve when motor start-up in lower speed because less liquid pressure and smaller drag exist at this time when reaching its rated rotational speed, oil pressure increase and drive load to rotate, this is coupler's buffering starting shock principle; When load is too heavy, speed differential between pump wheel and turbine increase, oil is heated immediately, melt able plug in the coupler will be melted when oil temperature exceed 120 ° c, oil sprays out to make input separate from output, thus main motor is protected and make sure no burn occurs, oil is the media of transmission, so its performance will influence coupler's working condition. Replace the oil as required (Refer to item 5.3 for further information)



6,LWF Decanter Centrifuge(Middle Speed)



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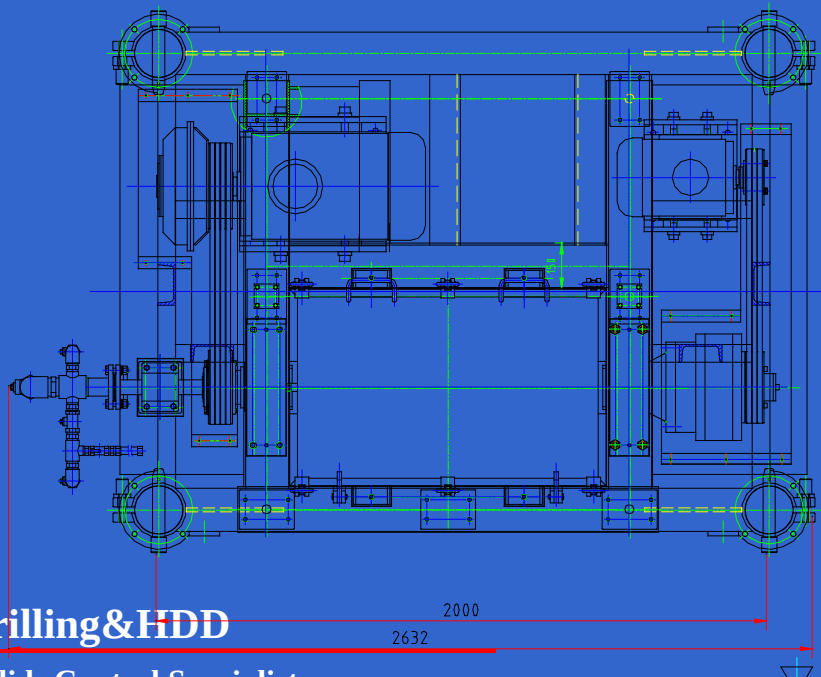
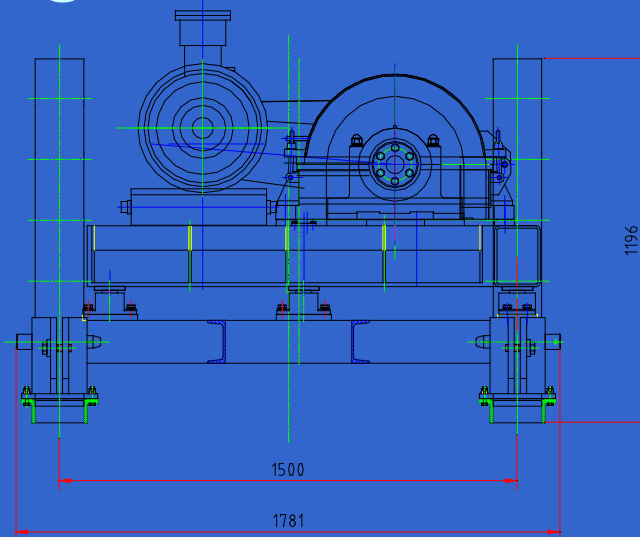
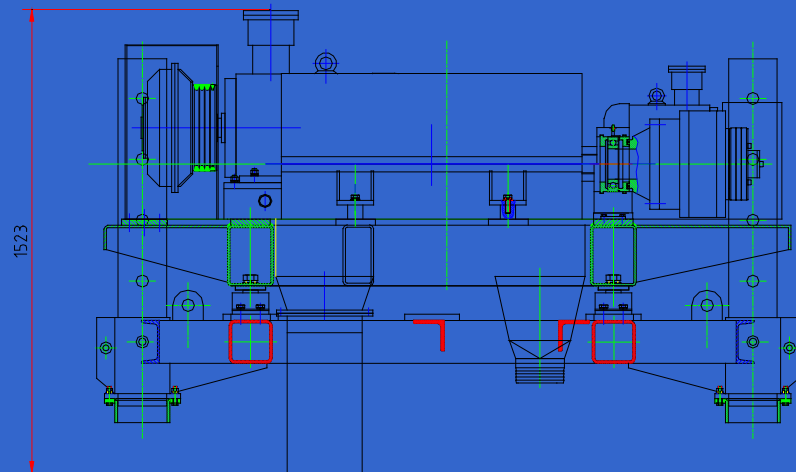


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LWF450 × 842N Centrifuge Dimension

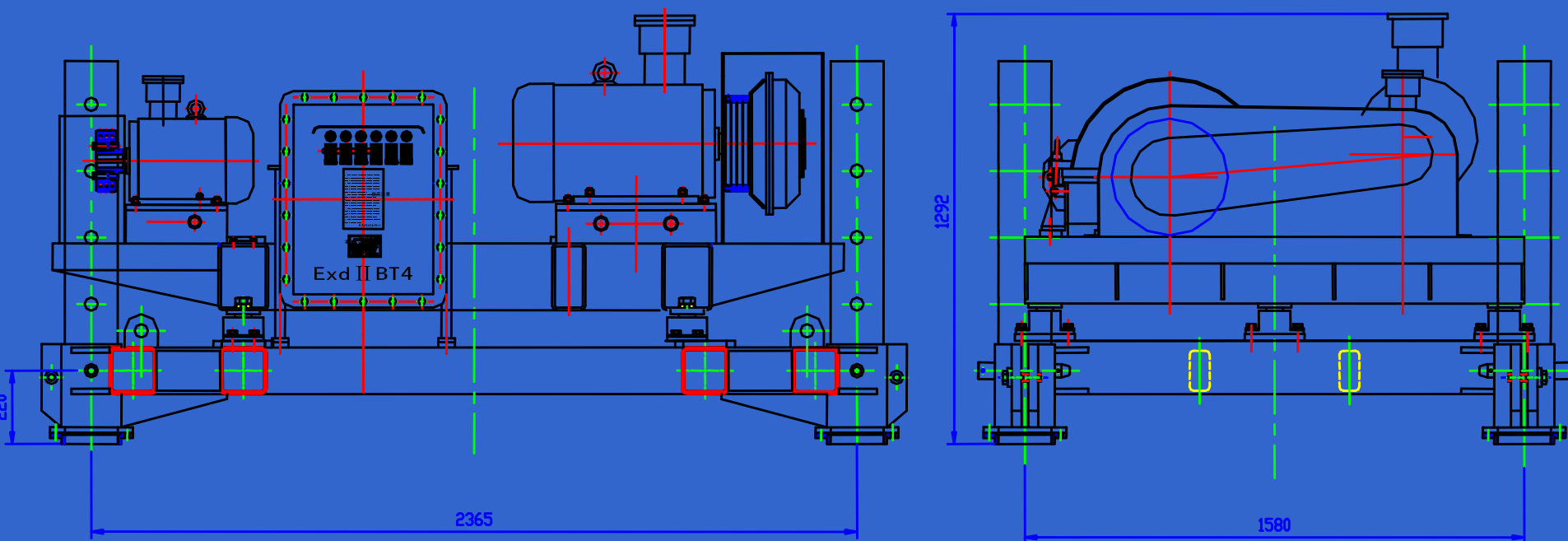


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标记	处数	分区	更改文件号	签字	年、月、日			
设计			标准化			阶段标记	重量	比例
审核								1:15
工艺			批准			共 张 第 张		

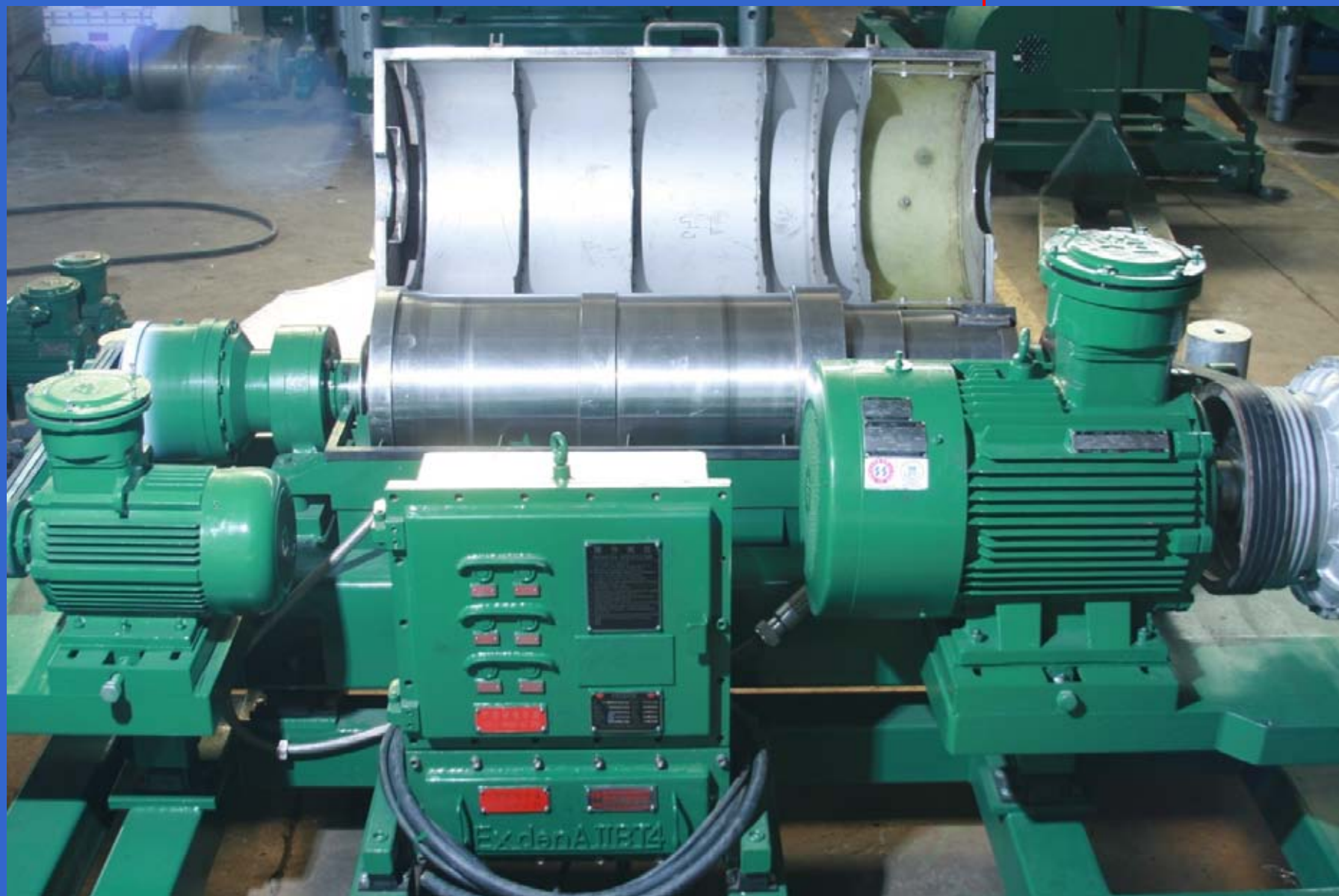
LWF 450 × 1000N Centrifuge Dimension



7, GLW Decanter Centrifuge(High Speed)



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GLW Decanter Centrifuge(High Speed)



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Notes: 1) Solids Discharge protection with Tungsten Carbon Alloy Ring
2) Frequency Converter for variable speed from 0~3200RPM

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8, Centrifuge General FAQ

- 8.1) What type of material is used in constructing the bowl, screw propeller, heads, etc.?
 - Normal price is for SS304 Material, SS316 and Titanium Alloy is optional.
 -
- 8.2) Is the screw propeller wear protected?
 - Yes, Normal price is for wear protected by Tungsten carbon alloy coating. Tungsten carbon alloy tile protection is optional.
 -
- 8.3) Is the solids discharge wear protected?
 - Yes, Tungsten carbon alloy coating protection and Tungsten carbon alloy changeable ring protection available.
 -

- 8.4) What type of gear box for the centrifuge?
- Cycloidal pinwheel gear box and satellite gearbox are available.
- 8.5) Is there any overload safety protection methods for the centrifuge?
- There are 3 overload safety protection, one is the safety protection device of the gear box, second is the hydraulic coupler overload protection, third is the control panel with over current protection.

- 8.6) What brand bearing for the centrifuge?
- Germany FAG or SKF Bearing.
-
- 8.7) What type of the Motor and Electric control panel?
- Explosion proof, Normal price for Exd II BT4, Marine Motor and ATEX Motor is optional
- 8.8) How to adjust the speed of the unit?
- Two methods available for variable speed centrifuge, one is to change the belt pulley, the other is to have
- Frequency converter to change speed from 0 rpm to maximum speed.

- 8.9) What type of the feeding pump are available?
- Vertical centrifugal pump, Horizontal centrifugal pump and screw pump are available.
-
- 8.10) What's the warranty of the centrifuge?
- Guarantee for 12 months from date of commissioning or 18 months from date of shipment, whichever comes first. during the guarantee period , our company will be responsible for problems caused by quality of production raw material except the damageable spare parts of decanter centrifuge caused by incorrect man-made operation.

9)Contact GN Solids Control

Solids Control Specialist:

OIL & GAS DRILLING---Solids Control Equipments

HDD & UNDERGROUND---Mud Recycling System

MINING & INDUSTRIAL---Slurry Separation Plant



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(English)