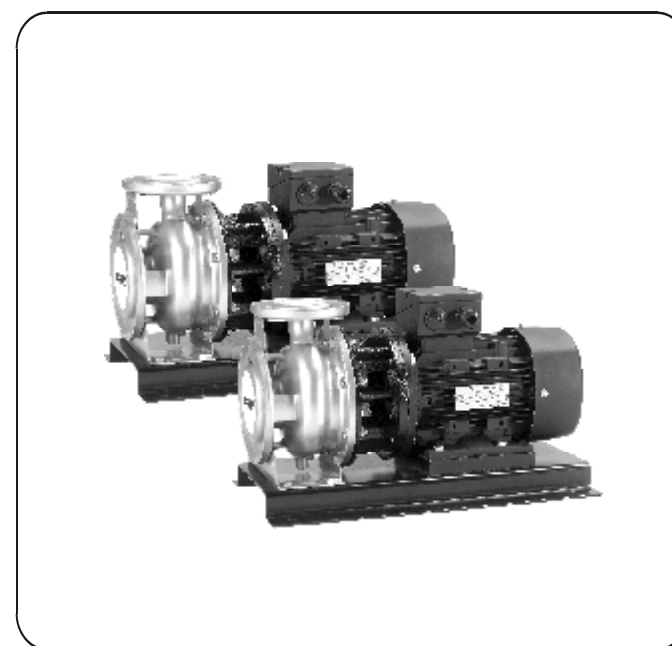


ZS

Stainless Steel Horizontal Single Stage Centrifugal Pump

Operation Manual



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Read this manual carefully before install, start the pump
 Standard:Q/HNB011 (ZS Stainless steel horizontal single stage centrifugal pump)

I. General

ZS Stainless steel horizontal single stage centrifugal pump is made of stainless steel processed by advanced techniques such as pressing, bulging and welding. It is mainly composed of motor, casing, impeller, mechanical seal, etc.. The pump is installed with the motor through extended shaft, horizontal suction and vertical discharge. It may replace traditional IS pump and common corrosion resistant pump. It features beautiful appearance, light structure, high efficiency, energy saving, durability, slight corrosion proof and low noise, etc.

II. Applications

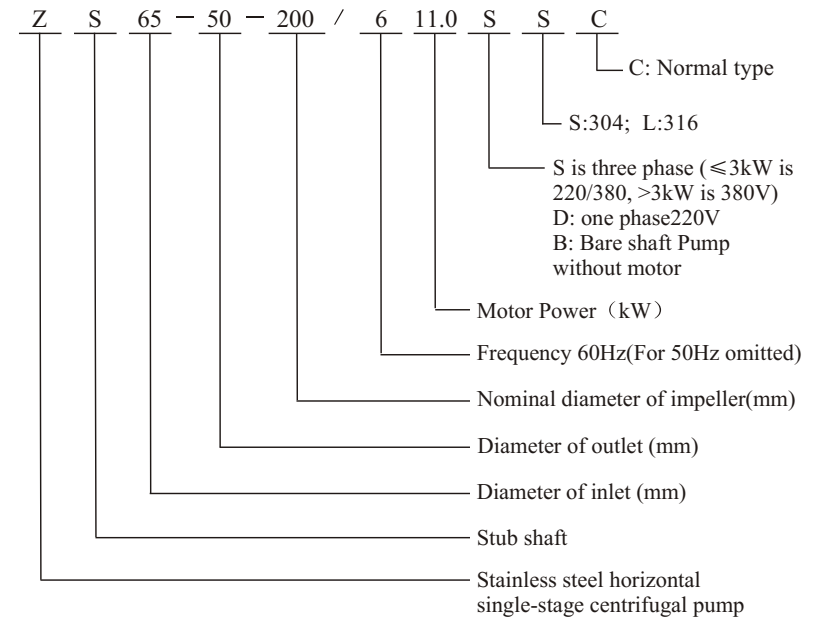
ZS Stainless steel horizontal single-stage centrifugal pump is multifunction product with wide application. It may transfer various mediums including water or industrial liquid and is suitable for different temperature, flow and range of pressure. Its typical application is mainly as follows.

- Water supply: filtration in water works, transportation and subarea water carriage, pressurization of main duct;
- Industrial pressurization: flow wetting system, cleaning system;
- Transportation of industrial liquid: water supply of boiler, condensed system, cooling and air conditioning system, machine tool support, light acid and alkali transportation;
- Water treatment: distilled water system or separator, swimming pool, etc.;
- Farmland irrigation, medicine and sanitation, etc.

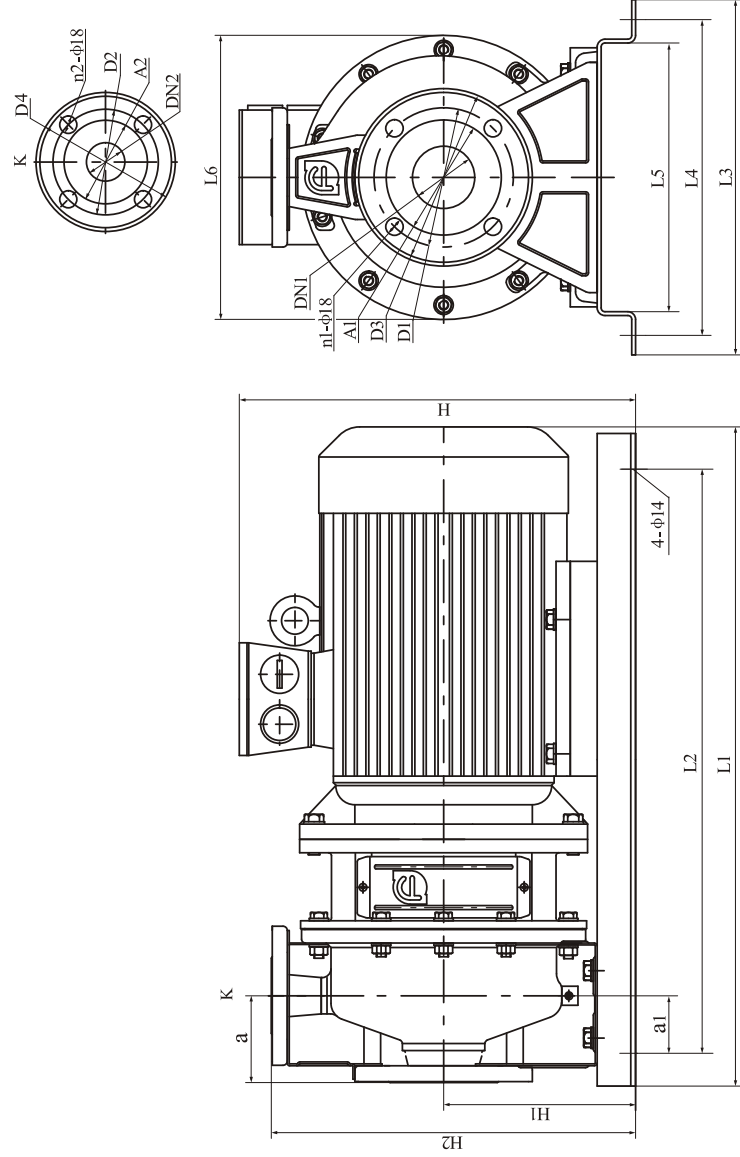
III. Operating conditions

- Clean, thin, non-flammable and non-explosive liquid, not containing grain or fiber;
- Liquid temperature: -20°C~ +100°C
- Ambient temperature: Max: +40°C
- Altitude: Max 1000m
- Max. pressure of the system is 10 bar.

IV. Definition of model



V. Installation sketch



.3.

VI Size and weight

50Hz

Model	Size (mm)																Weight (kg)					
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	H	H1	H2	L1		L2	L3	L4	L5	L6
ZS50-32-160/1.1	50	32	98	75	125	100	160	139	4	4	80	32	290	152	296	470	370	280	240	192	210	31
ZS50-32-160/1.5	50	32	98	75	125	100	160	139	4	4	80	46	307	152	296	500	430	280	240	192	210	37
ZS50-32-160/2.2	50	32	98	75	125	100	160	139	4	4	80	46	307	152	296	500	430	280	240	192	210	39
ZS50-32-200/3.0	50	32	98	75	125	100	160	139	4	4	84	42	370	200	386	550	460	330	290	242	300	53
ZS50-32-200/4.0	50	32	98	75	125	100	160	139	4	4	84	47	393	200	386	560	480	330	290	242	300	58
ZS50-32-200/5.5	50	32	98	75	125	100	160	139	4	4	84	50	413	200	386	660	580	370	330	280	300	77
ZS65-40-125/1.5	65	40	118	84	145	110	185	145	4	4	80	45	307	152	294	502	430	280	240	192	210	33
ZS65-40-125/2.2	65	40	118	84	145	110	185	145	4	4	80	45	307	152	294	502	430	280	240	192	210	35
ZS65-40-125/3.0	65	40	118	84	145	110	185	145	4	4	80	45	322	152	294	532	460	300	260	212	250	47
ZS65-40-160/4.0	65	40	118	84	145	110	185	145	4	4	80	45	345	152	294	557	480	330	290	242	250	52
ZS65-40-200/5.5	65	40	118	84	145	110	185	145	4	4	100	50	413	200	380	680	580	370	330	280	300	78
ZS65-40-200/7.5	65	40	118	84	145	110	185	145	4	4	100	50	413	200	380	680	580	370	330	280	300	82
ZS65-40-200/11.0	65	40	118	84	145	110	185	145	4	4	100	50	456	200	380	790	690	420	380	330	350	161
ZS65-50-125/3.0	65	50	118	98	145	125	185	160	4	4	86	45	342	172	338	548	468	330	290	242	250	49
ZS65-50-125/4.0	65	50	118	98	145	125	185	160	4	4	86	45	365	172	338	570	490	330	290	242	250	54
ZS65-50-160/5.5	65	50	118	98	145	125	185	160	4	4	100	50	413	200	380	680	580	370	330	280	300	78
ZS65-50-200/7.5	65	50	118	98	145	125	185	160	4	4	100	50	413	200	380	680	580	370	330	280	300	82
ZS65-50-200/9.2	65	50	118	98	145	125	185	160	4	4	100	50	413	200	380	680	580	370	330	280	300	85
ZS65-50-200/11.0	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	790	690	420	380	330	350	161
ZS65-50-200/15.0	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	790	690	420	380	330	350	171
ZS65-50-200/18.5	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	830	730	420	380	330	350	188

.4.

50Hz

Model	Size (mm)																Weight (kg)					
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	H	H1	H2	L1		L2	L3	L4	L5	L6
ZS80-65-125/5.5	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	79
ZS80-65-125/7.5	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	83
ZS80-65-125/9.2	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	87
ZS80-65-160/11.0	80	65	130	118	160	145	200	185	8	4	100	50	456	200	400	790	690	420	380	330	350	163
ZS80-65-160/15.0	80	65	130	118	160	145	200	185	8	4	100	50	456	200	400	790	690	420	380	330	350	173
ZS80-65-200/18.5	80	65	130	118	160	145	200	185	8	4	100	50	476	220	445	830	730	420	380	330	350	190
ZS80-65-200/22.0	80	65	130	118	160	145	200	185	8	4	100	50	500	220	445	880	780	455	415	365	350	220
ZS80-65-200/30.0	80	65	130	118	160	145	200	185	8	4	100	50	550	240	465	950	850	495	455	405	400	292
ZS100-80-160/11.0	100	80	150	130	180	160	220	200	8	8	125	75	476	220	445	830	730	420	380	330	350	163
ZS100-80-160/15.0	100	80	150	130	180	160	220	200	8	8	125	75	476	220	445	830	730	420	380	330	350	173
ZS100-80-160/18.5	100	80	150	130	180	160	220	200	8	8	125	75	476	220	445	870	770	420	380	330	350	185
ZS100-80-200/22.0	100	80	150	130	180	160	220	200	8	8	125	75	500	220	470	915	810	455	415	365	350	223
ZS100-80-200/30.0	100	80	150	130	180	160	220	200	8	8	125	75	550	240	490	985	880	495	455	405	400	295
ZS100-80-200/37.0	100	80	150	130	180	160	220	200	8	8	125	75	550	240	490	985	880	495	455	405	400	315

• 5.

60Hz

Model	Size (mm)																Weight (kg)					
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	H	H1	H2	L1		L2	L3	L4	L5	L6
ZS50-32-160/6 1.1	50	32	98	75	125	100	160	139	4	4	80	32	290	152	296	470	370	280	240	192	210	31
ZS50-32-160/6 1.5	50	32	98	75	125	100	160	139	4	4	80	46	307	152	296	500	430	280	240	192	210	37
ZS50-32-160/6 2.2	50	32	98	75	125	100	160	139	4	4	80	46	307	152	296	500	430	280	240	192	210	39
ZS50-32-160/6 3.0	50	32	98	75	125	100	160	139	4	4	80	46	322	152	296	532	460	300	260	212	250	47
ZS50-32-200/6 4.0	50	32	98	75	125	100	160	139	4	4	84	47	393	200	386	560	480	330	290	242	300	58
ZS50-32-200/6 5.5	50	32	98	75	125	100	160	139	4	4	84	50	413	200	386	660	580	370	330	280	300	77
ZS65-40-125/6 1.5	65	40	118	84	145	110	185	145	4	4	80	45	307	152	294	502	430	280	240	192	210	33
ZS65-40-125/6 2.2	65	40	118	84	145	110	185	145	4	4	80	45	307	152	294	502	430	280	240	192	210	35
ZS65-40-125/6 3.0	65	40	118	84	145	110	185	145	4	4	80	45	322	152	294	532	460	300	260	212	250	47
ZS65-40-125/6 4.0	65	40	118	84	145	110	185	145	4	4	80	45	345	152	294	557	480	330	290	242	250	52
ZS65-40-160/6 5.5	65	40	118	84	145	110	185	145	4	4	100	50	413	200	380	680	580	370	330	280	300	78
ZS65-40-160/6 7.5	65	40	118	84	145	110	185	145	4	4	100	50	413	200	380	680	580	370	330	280	300	82
ZS65-40-200/6 11.0	65	40	118	84	145	110	185	145	4	4	100	50	456	200	380	790	690	420	380	330	350	161
ZS65-50-125/6 3.0	65	50	118	98	145	125	185	160	4	4	86	45	342	172	338	548	468	330	290	242	250	49
ZS65-50-125/6 4.0	65	50	118	98	145	125	185	160	4	4	86	45	365	172	338	570	490	330	290	242	250	54
ZS65-50-125/6 5.5	65	50	118	98	145	125	185	160	4	4	86	37	385	172	338	680	580	370	330	280	300	78
ZS65-50-160/6 7.5	65	50	118	98	145	125	185	160	4	4	86	37	385	172	338	680	580	370	330	280	300	82
ZS65-50-160/6 9.2	65	50	118	98	145	125	185	160	4	4	86	37	385	172	338	680	580	370	330	280	300	85
ZS65-50-200/6 11.0	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	790	690	420	380	330	350	161
ZS65-50-200/6 15.0	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	790	690	420	380	330	350	171
ZS65-50-200/6 18.5	65	50	118	98	145	125	185	160	4	4	100	50	456	200	380	830	730	420	380	330	350	188

• 6.

60Hz

Model	Size (mm)																Weight (kg)					
	DN1	DN2	A1	A2	D1	D2	D3	D4	n1	n2	a	a1	H	H1	H2	L1		L2	L3	L4	L5	L6
ZS80-65-125/6 5.5	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	79
ZS80-65-125/6 7.5	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	83
ZS80-65-125/6 9.2	80	65	130	118	160	145	200	185	8	4	100	50	413	200	380	690	590	370	330	280	300	87
ZS80-65-160/6 11.0	80	65	130	118	160	145	200	185	8	4	100	50	456	200	400	790	690	420	380	330	350	163
ZS80-65-160/6 15.0	80	65	130	118	160	145	200	185	8	4	100	50	456	200	400	790	690	420	380	330	350	173
ZS80-65-200/6 18.5	80	65	130	118	160	145	200	185	8	4	100	50	500	220	445	830	730	420	380	330	350	190
ZS80-65-200/6 22.0	80	65	130	118	160	145	200	185	8	4	100	50	500	220	445	880	780	455	415	365	350	220
ZS80-65-200/6 30.0	80	65	130	118	160	145	200	185	8	4	100	50	550	240	465	950	850	495	455	405	400	292
ZS100-80-160/6 15.0	100	80	150	130	180	160	220	200	8	8	125	75	476	220	445	830	730	420	380	330	350	173
ZS100-80-160/6 18.5	100	80	150	130	180	160	220	200	8	8	125	75	476	220	445	870	770	420	380	330	350	185
ZS100-80-200/6 22.0	100	80	150	130	180	160	220	200	8	8	125	75	500	220	470	915	810	455	415	365	350	223
ZS100-80-200/6 30.0	100	80	150	130	180	160	220	200	8	8	125	75	550	240	490	985	880	495	455	405	400	295
ZS100-80-200/6 37.0	100	80	150	130	180	160	220	200	8	8	125	75	550	240	490	985	880	495	455	405	400	315

.7.

VII. Installation requirement

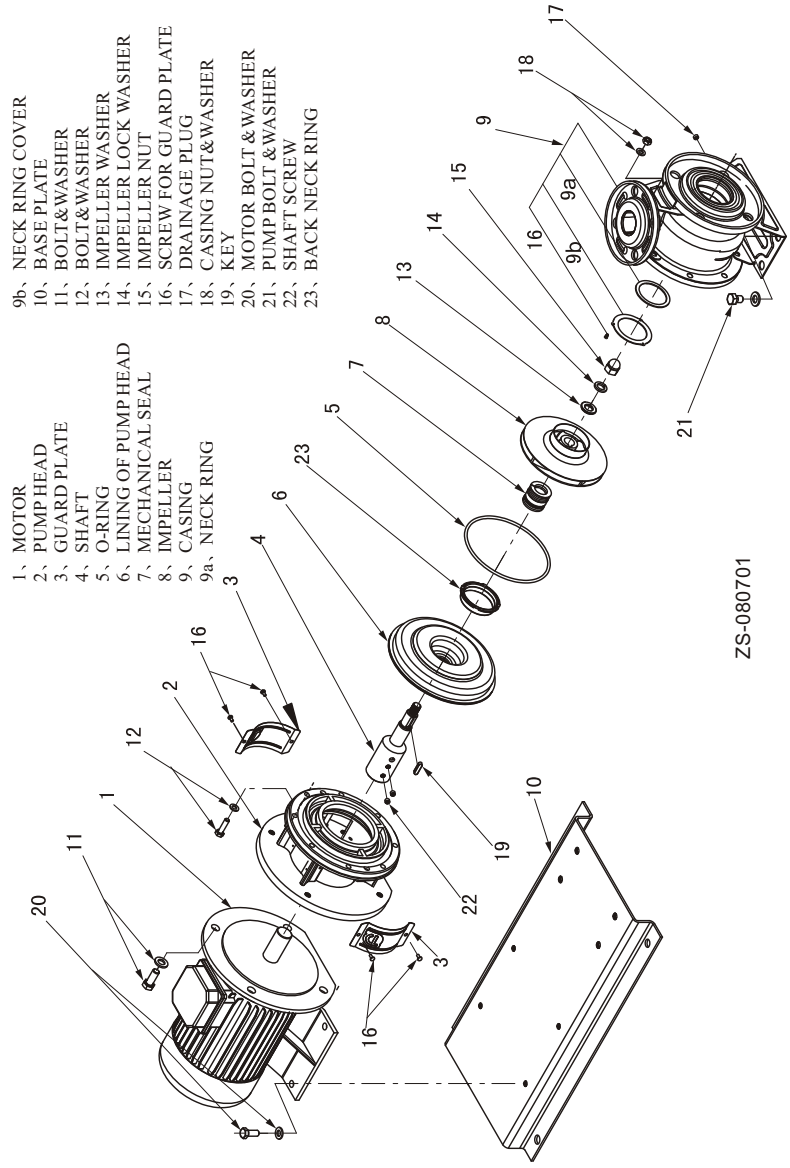
- 1、 The pump should be sited in a well ventilated and anti-frozen place.
- 2、 The suction pipeline should be as short as possible, air locks should be prevented.
- 3、 When installation, note that the height difference of suction liquid level and the suction inlet, to ensure the height not exceed the pump allowed suction height.
- 4、 When install pipelines, note that not let the pipelines weight force the pump, or the pump will be twisted.
- 5、 Electric wiring device shall guarantee that the pump will not be damaged by lack of phase, unstable voltage, current leakage or overload.
- 6、 The pump rotating direction is clockwise from the motor end.

VIII. Operation

- 1、 Open the inlet valve, open the outletvalve a little. Note to fill the pump fully with transferring liquid to prevent from dry friction and damage of mechanical seal;
- 2、 Start the motor, check the turning direction, open the outlet valve slowly and adjust it to required working condition;
- 3、 Observe whether there is noise during operation. In case of abnormal situation, stop and check it, solve the problem in time;
- 4、 Periodically inspect the working condition of the pump, operation pressure, leakage and temperature rise of the motor in accordance with operating situation and period of the pump.

.8.

IX. Drawing

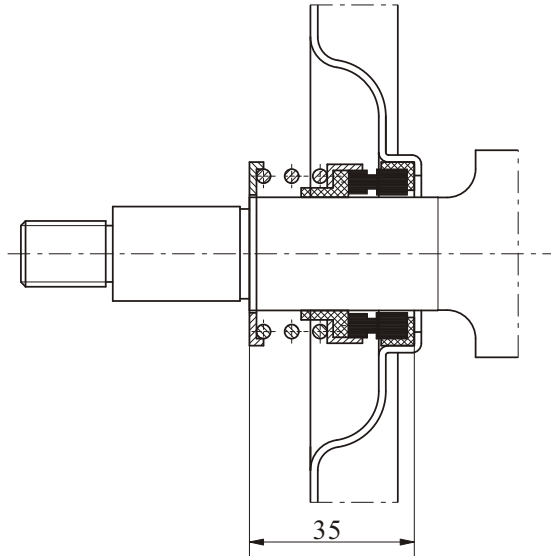


X. Fault finding and solution chart

Fault	Cause	Solution
Motor can't be started	<ol style="list-style-type: none"> 1. Power supply defective 2. Motor overload 3. Control circuit defective 	<ol style="list-style-type: none"> 1. Check power supply 2. Check system 3. Check circuit
Pump no water	<ol style="list-style-type: none"> 1. Pump rotate reversely. 2. Too high suction head 3. Less water in chamber 4. Suction or discharge valve close 5. There is air in suction pipe or pump 	<ol style="list-style-type: none"> 1. Change motor cables. 2. Lower pump installation place. 3. Increase water 4. Open valve 5. Re-fill liquid, vent air completely.
Not big flow	<ol style="list-style-type: none"> 1. Pipes blocked. 2. Not chose the correct model 3. There is air in suction pipe. 	<ol style="list-style-type: none"> 1. Clean pump and pipelines 2. Choose the model again. 3. Check pipelines.
Pump costs much more power	<ol style="list-style-type: none"> 1. Too big flow. 2. Motor bearing wears out. Casing is blocked with impeller. 	<ol style="list-style-type: none"> 1. Adjust flow to little. 2. Replace motor bearing. Replace casing or impeller
Too big noise	<ol style="list-style-type: none"> 1. Parts broken in the pump. 2. Motor bearing wears out 	<ol style="list-style-type: none"> 1. Replace parts in pump 2. Replace bearing

XI. Assemble and dissemble

- 1、 Install pump shaft on the motor, fix the screw;
- 2、 Put motor on the pump head, install lining;
- 3、 Adjust the location of the shaft, ensure the size is 35 as the drawing, tighten the screw.



- 4、 Install the mechanical seal in the shaft, lubricate the mechanical seal wearing faces;
- 5、 Fit impeller, gasket, tighten nut;
- 6、 Fit the casing;
- 7、 Rotate the shaft with hand, the shaft should be not choked. Reverse the above steps to dissemble the pump.

XII. Important notice

- 1、 Customers will not be advised if this manual is updated.
- 2、 Pump will be guaranteed for one year under normal operation with the correct model. Wearing part is not included.
- 3、 Users shall be responsible for the damage if they disassemble the pumps by themselves in guaranteed period.