



Installation and operation instructions



TS
Horizontal Single-stage
Centrifugal Pump, 50Hz

Approvals

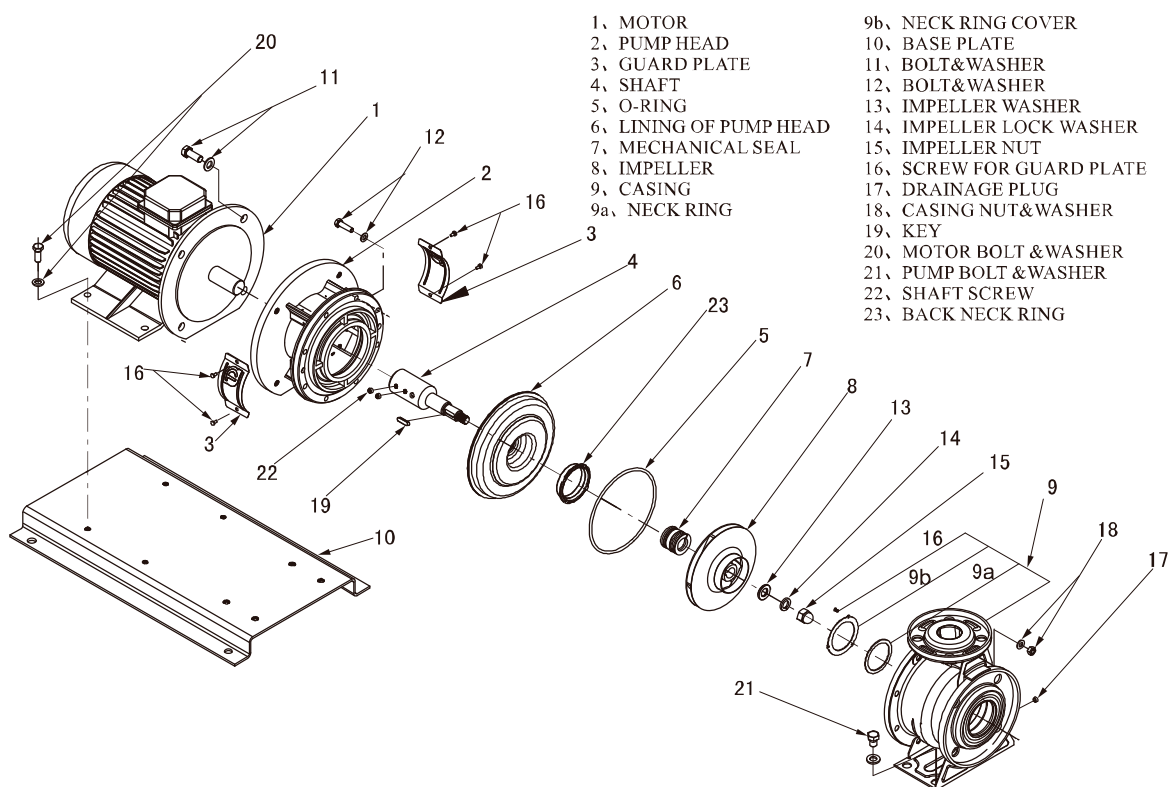
		EU Declaration of conformity	
According to the Low Voltage Directive 2006/95/EC and the Machinery Directive 2006/42/EC and Electromagnetic Directive 2004/108/EC.			
For the following equipment:			
Product:	Stainless steel Horizontal single-stage centrifugal pumps		
Type Designation:	TS series		
Manufacture's Name:	Swiss Pump Company AG		
Manufacture's Address:	Moosweg 36, CH-3645, Thun-Gwatt -Switzerland		
is here with confirmed to comply with the requirements set out in the Council Directive 2006/95/EC. And the Machinery Directive 2006/42/EC and Electromagnetic Directive 2004/108/EC.			
For the evaluation of the compliance with this Directives, the following standards are applied:			
EN 809:1998+A1 2009/AC:2010			
Responsible for making this declaration is the Manufacture:			
Company Name:	Swiss Pump Company AG		
Company Address:	Moosweg 36, CH-3645, Thun-Gwatt -Switzerland		
Person responsible for making this declaration			
Name, Surname:	Michael Bähler		
Position/Title:	production Manager		
(Place)	(Date)	(Company stamp and legal signature)	
Switzerland	20/05/2013		



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Structural parts



Installation requirments

- 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 and stress concentrate on pump to prevent pump from 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 rotation direction is clockwise from the motor end.

Operation

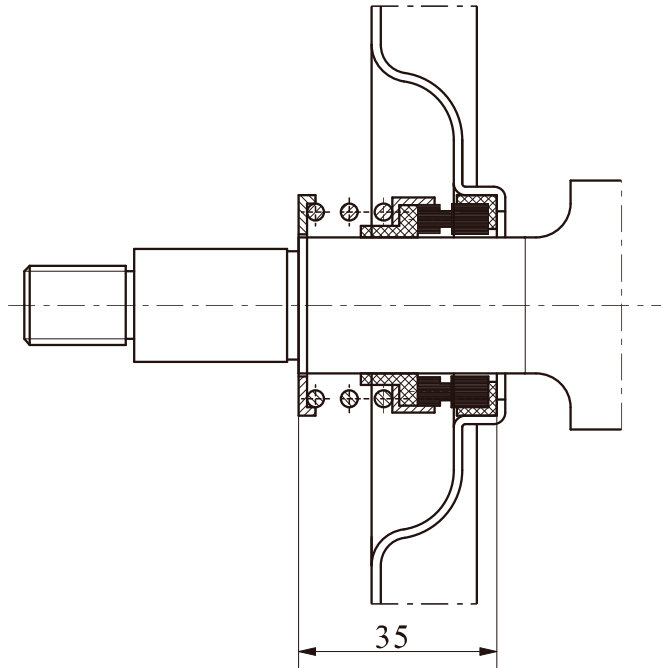
- 1、 Open the inlet valve, open the outlet valve a little. Note to fill the pump fully with transferring liquid to prevent from dry friction and damage of mechanical seal;
- 2、 Start the motor, check the turning direction, open the outlet valve slowly and adjust it to required working condition;
- 3、 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.

Troubleshooting

Fault	Cause	Solution
Motor can't be started	1.Power supply failure 2.Motor overload 3.Control circuit defective	1.Check power supply 2.Check system 3.Check circuit
Pump no water	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	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	1.Pipes blocked. 2.Not chose the correct model 3.There is air in suction pipe.	1.Clean pump and pipelines 2.Choose the model again. 3.Check pipelines.
Pump costs much more power	1.Too big flow. 2.Motor bearing wears out. Casing is blocked with impeller.	1.Adjust flow to little. 2.Replace motor bearing. Replace casing or impeller
Too big noise	1.Parts broken in the pump. 2.Motor bearing wears out	1.Replace parts in pump 2.Replace bearing

Assembly and Disassembly

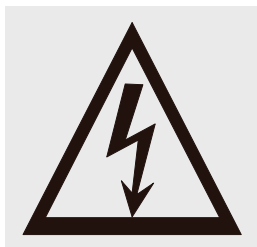
- 1、 Install pump shaft on the motor, fix the screw;
- 2、 Put motor on the pump head, install lining;
- 3、 Adjust the location of the shaft, ensure the size is 35mm as the drawing shows, tighten the screw.



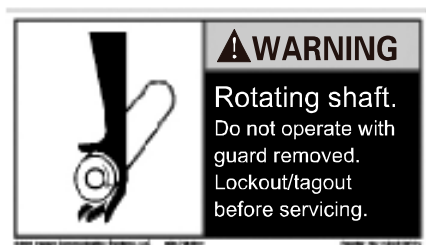
- 4、 Install the mechanical seal in the shaft, lubricate the mechanical seal friction surface;
- 5、 Fit impeller, gasket, tighten nut;
- 6、 Fit the casing;
- 7、 Rotate the shaft with hand, the shaft should be not choked. Reverse the above steps to disassemble the pump.

Warning

A. Before opening the terminal box, please shut off the power supply to prevent from electric shock.



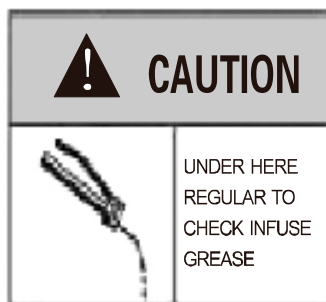
B. Before opening the coupling guards, please stop pump firstly to prevent from hurts.



C. When installing the pump, please fix the foundation bolts vertically to prevent from pump falling to hurt people.

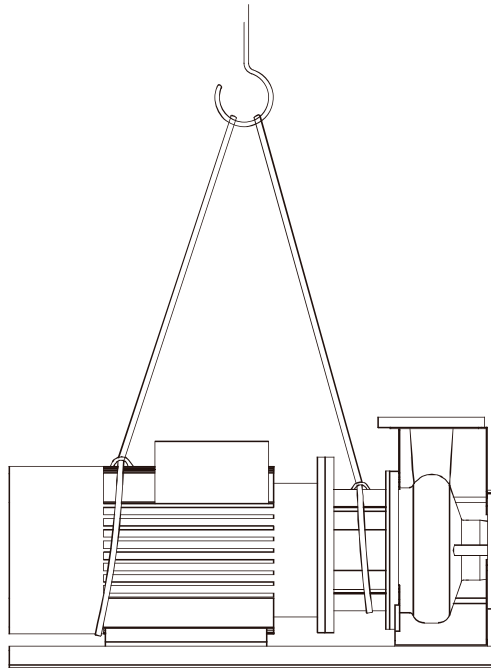
D. Please fill grease to the pump when it requires.

For motor power less than 5.5kW, it is free of filling grease. For motor power equal or higher than 5.5kW, please fill grease every 5000 running hours.





E. The lifting ring on the pump motor could not be used to lift the pump. The pump should be lifted by nylon tape and retaining ring or hook.



F. Recommendation for Electrical Connention and Safety Devices

Motor parameter(380V 50Hz/60Hz)

No.	Motro Power (kW)	Cable connecation	Current (A)		Cable spec (mm ²)
			YE2/IE2	YE3/IE3	
1	1.1	Y	2.5	2.4	1
2	1.5	Y	3.3	3.2	1
3	2.2	Y	4.7	4.6	1.5
4	3	Y	6.2	6.0	1.5
5	4	Δ	8.0	7.8	2.5
6	5.5	Δ	10.9	10.6	2.5
7	7.5	Δ	14.5	14.4	4
8	11	Δ	21.0	20.6	4
9	15	Δ	28.4	27.9	6
10	18.5	Δ	34.7	34.2	10
11	22	Δ	41.1	40.5	16
12	30	Δ	55.7	54.9	16
13	37	Δ	68.3	67.4	25

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.



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