IV Common Faults and Solutions

Fault	Cause Analysis	Solution
When the starter is closed, the motor cannot start.	a) Possible power supply failure. b) Fuses are blown. c) Motor is overloaded. d) Starter failure e) Control circuit is defective. f) Motor is defective.	a) Check power supply. b) Replace fuses. c) Check system. d) Replace motor starter. e) Replace control circuit. f) Repair.
The starter overload device trips (when the power is turned on, it trips immediately)	a) Fuses are blown. b) Contacts of overload device are faulty. c) Cable connections are loose or faulty. d) Motor winding is defective. e) Blockage or rubbing in the pump f) Overload current setting is too low	a) Replace fuses. b) Check motor starter. c) Check the cable connection or power supply d) Replace motor. e) Clear the blockage in the pump f) Reset
The overload device accidentally trips	a) The setting of overload is too low. b) Periodic power supply faults. c) Low voltage at peak times.	a) Reset overload settings. b) Check power supply. c) Add regulator.
The overload device does not trip, but the pump does not run	a) Contacts of starter are not contacted well or the coil is faulty. b) Control circuit are defective.	a) Change motor stater. b) Check control circuit.
Unstable pump performance	a)The inlet pressure of the pump is too low b)The pipeline/pump is blocked by debris c)The pump sucks in air d)The direction of rotation of the pump is wrong	a) Check the water absorption conditions b) Clean the pipeline/pump c) Check the condition of the suction pipeline d) Adjust the rotation of the motor
The pump runs but no water	a) The pipeline/pump is blocked by debris b) The bottom valve or check valve is stuck in the closed position c) Leakage of water inlet pipe d) There is air in the water inlet pipe or pump	a) Clean the pipeline/pump b) Overhaul the foot valve or check valve c) Check and repair the water inlet pipe d) Refill the liquid to remove the air
Pump has abnormal vibration and noise	a) Leakage of water inlet pipe b) The inlet pipe is too small or blocked by debris c) There is air in the water inlet pipe or pump d) The pump has mechanical friction e) Motor bearing failure	a) Check and repair the water inlet pipe b) Enlarge or clean the water inlet pipe c) Refill liquid to remove air d) Overhaul the pump e) Replace the bearing
Mechanical seal leakage	a) Mechanical seal failure	a)Replace the mechanical seal

Swimming Pool Pump

NSC Series Operation Manual

Application and Conditions

The structure of NSC series swimming pool pump is single-stage, horizontal, axial suction and the water outlet is vertically upward. Its advantages are high efficient, energy saving, light corrosion resistant with beautiful appearance,light but compact structure,low noise and long durability.NSC pumps are single stage centrifugal pump for water circulation and re-filtration.

1.Applications

- Domestic and commercial swimming pool
- Water park
- Water landscape
- Seawater farming
- Hot spring SPA

2.Working Conditions

- Liquid temperature:5~50℃
- Ambient temperature: ≤40℃
- Max. working pressure:0.3Mpa

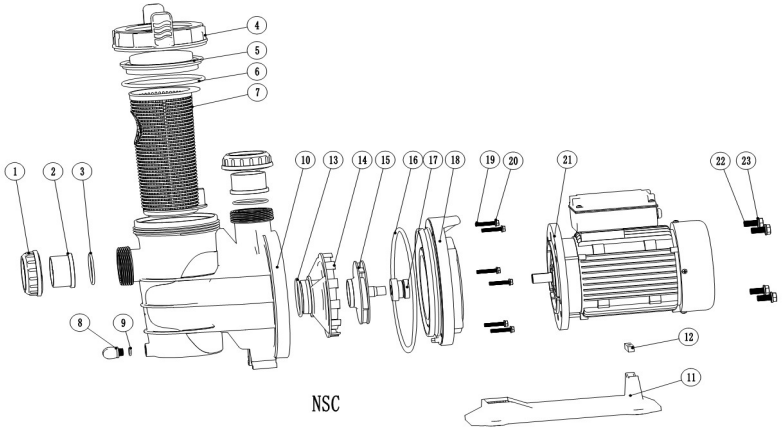
3.Model Definition

N S C 150 G S W S

- S:304;L:316;
- W:50Hz;L:60Hz;
- S:3PH;D:1PH
- G:Metric unit hose connector;Y:Imperial unit hose connector;
- Motor output power(HP*100)
- Pump series number
- Swimming Pool Pump

I Structure

- The pump is mainly composed of motor, pump cover, impeller, pump body and mechanical seal. Refer to figure.
- The key components of the pump including impeller, pump body, pump cover,etc are all made of engineering plastics.
- The pump adopts a single-end built-in mechanical seal which the grinding block is graphite/silicon carbide.
- The connection between the pump and pipeline is pipe thread connection which thread standard according to《GB/T7307 55° unsealed pipe thread》.



NSC

1. Joint nut 2. Joint 3. O ring 4. Perspective cover spanner 5. Perspective cover 6. O ring 7. Filter basket 8. Drainage plug 9. O ring 10. Hexagonal bolt and flat washer 11. Base plate 12. Base plate rubber strip 13. O ring 14. Diffuser 15. Impeller 16. O ring 17. Mechanical seal 18. Cover plate 19. Bolt 20. Flat washer 21. Motor 22. Bolt 23. Flat washer

II Installation and Connection

1. Installation

- The pump must be installed on a hard and flat surface.Using a short and straight pipe system to reduce water flow loss.Installation position should not be higher than 3 meters above the water surface. Install a valve at the water inlet and outlet and drainage system of the machine house should be good to prevent the room from being too humid.The machine house must have enough space for the convenience of pump and pipeline maintenance.
- After installation, the warning signs on the top of the motor must be read. In addition to providing safe ultra-low voltage <12V.In addition to the parts, the live parts must be inaccessible to the people in the swimming pool.
- For Class I devices without plugs, they must be permanently connected to fixed wiring. Must be positioned or fixed electrical components other than remote control equipment.

2. Pipeline Device

- Inlet and outlet pipes should not be supported by the pump body. The diameter of the inlet pipe must be larger than or equal to the pump inlet. The inlet pipe should be slightly inclined to avoid air remaining in the pipe.
- Avoid dripping water on the motor, otherwise it will cause damage to motor.

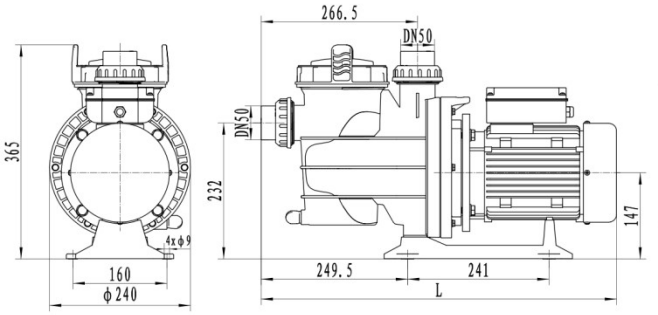
3. Electrical Connection ⚠

- Electrical equipment should have a multiple isolation system with a contact opening of at least 3 mm length. Electrical installation must refer to national wiring rules. To continuously prevent possible electric shock, the unit should be mounted on the base in accordance with the installation instructions.

- The power cord of the water pump should be connected through a circuit with a residual current circuit breaker (RCD), and the specified operating value shall not exceed30mA, the power supply cable should meet the EMC standard (2). Single-phase motors have built-in thermal protection. Electrical connection must be carried out by qualified staff in strict accordance with the "EN60335-2-41" standard. Make sure that the ground wire is connected correctly.
- Ensure that the equipotential connection between the swimming pool and the water pump is correct. The cross-section of the equipotential bonding conductor should be at 2.5 ~ 6m ㎡ and should be equipped with suitable terminals.

4. Shape and Installation Sketch

NSC



Model	L
NSC35	590
NSC50	
NSC75	
NSC100	
NSC120	610
NSC150	

III Performance Curve