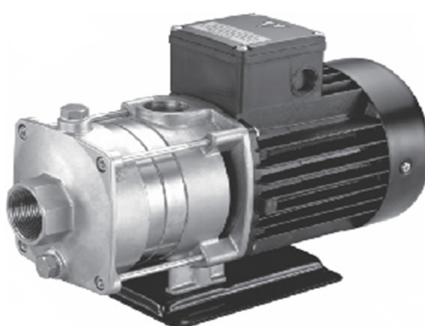




SYSTEMFLO

## **Installation and Operation Manual SCB-C, SCB-S, SHB-S, SHB-N**



## 1. Handling

Before installation, these installation and operating instructions must be read carefully.  
The product must be lifted and handled with care.

## 2. Applications

SCB-C, SCB-S: Designed to handle clean, thin, non-aggressive water and non-explosive liquids, no solid particles.

SHB-S, SHB-N: Designed to handle clean, thin and non-explosive liquid without particles. Also suitable for light industry applications.

## 3. Working Limits

### SCB-C, SCB-S:

Max. operating pressure: 0°C to + 40°C → 10 bar , + 41°C to + 90°C → 6 bar

Max. liquid temperature: 0°C ~ +90°C.

Max. ambient temperature: +55°C.

Min. inlet pressure: According to the NPSH curve + a safety margin of 0.5m.

Max. inlet pressure: Limited by the max. operating pressure.

### SHB-S, SHB-N:

Max. operating pressure: 10 bar.

Max. liquid temperature: HBI-- 0°C ~ +90°C, HBN-- -15°C ~ +120°C.

Max. ambient temperature: +40°C.

Min. inlet pressure: According to the NPSH curve + a safety margin of 0.5m.

Max. inlet pressure: Limited by the max. operating pressure.

## 4. Installation

The pump may be installed as shown in Fig.1

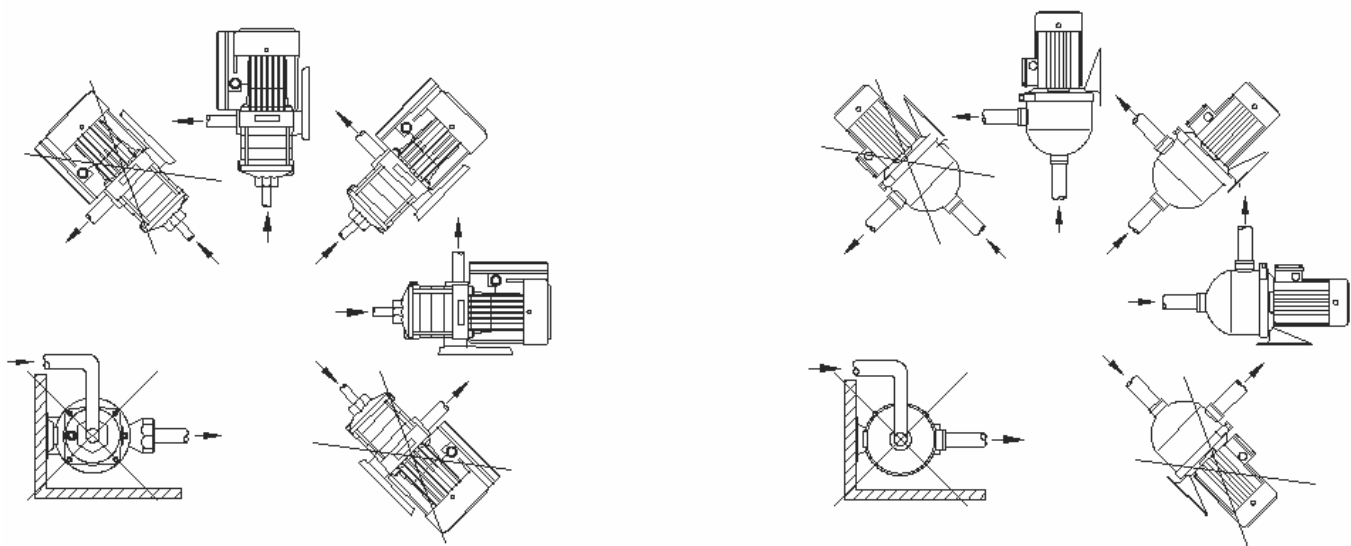
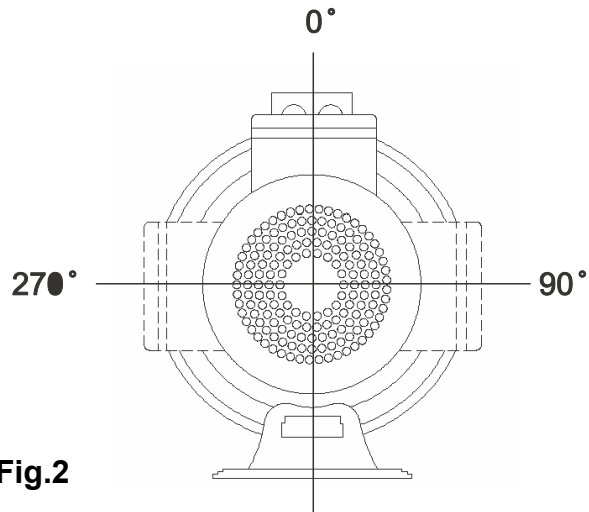


Fig.1

## Position of terminal box (Fig.2)

The terminal box can be turned to three positions before the pump is installed.



**Fig.2**

## Proper installation ( Fig.3)

- A= Eccentric adapter
- B= Positive lift
- C= Good immersion
- D= Long radius bends
- E= Suction pipe diameter  $\geq$  pump port diameter
- F= Suction lift. Depends on pump and installation\*
- G= Pipes must not exert stress on pump but on independent supports
- H= Foot valve.

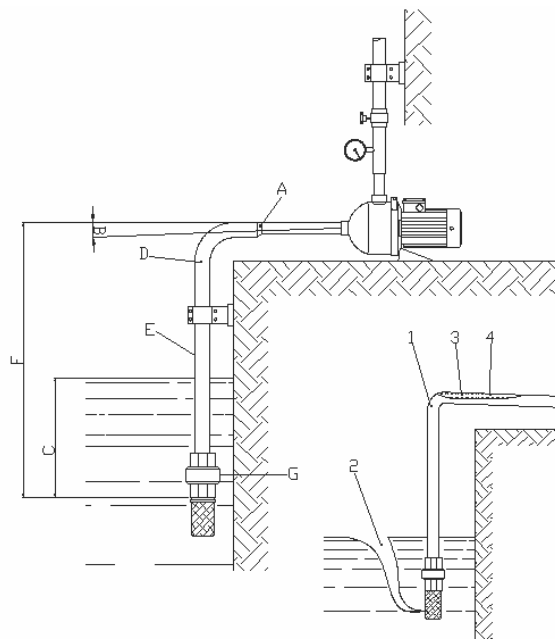
\*The suction lift is determined by liquid temperature, altitude, flow resistance and NPSH required by the pump.

### Notes:

A general rule: When the suction pipe is longer than 10 meters or the suction lift is greater than 4 meters, the diameter of the suction pipe must be larger than that of the pump suction port.

## Improper installation ( Fig.3)

- 1 = Tight bends: high flow resistance
- 2 = Insufficient immersion: air suction
- 3 = Negative lift: air pockets
- 4 = Pipe diameter < pump port diameter:



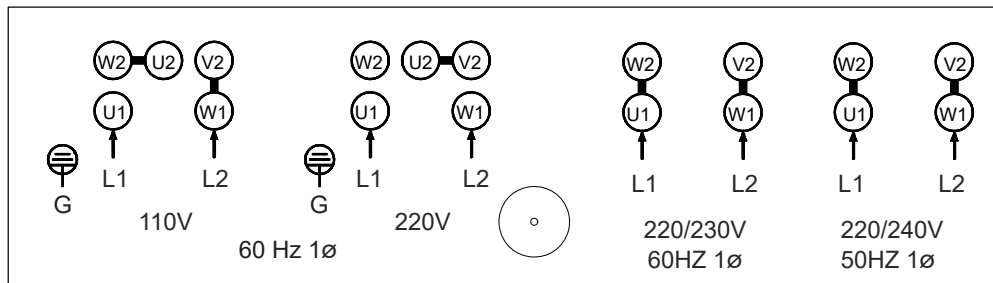
**Fig.3**

## 5. Electrical Connection

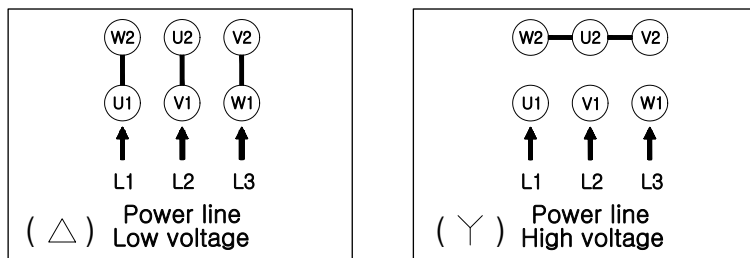
The electrical connection is made as shown in the wiring diagram below, which is located on the inside of the terminal box cover. Check if the rotation is consistent with the direction marked on the fan cover (for three phase motors only).

### Wiring Diagram

#### Single Phase



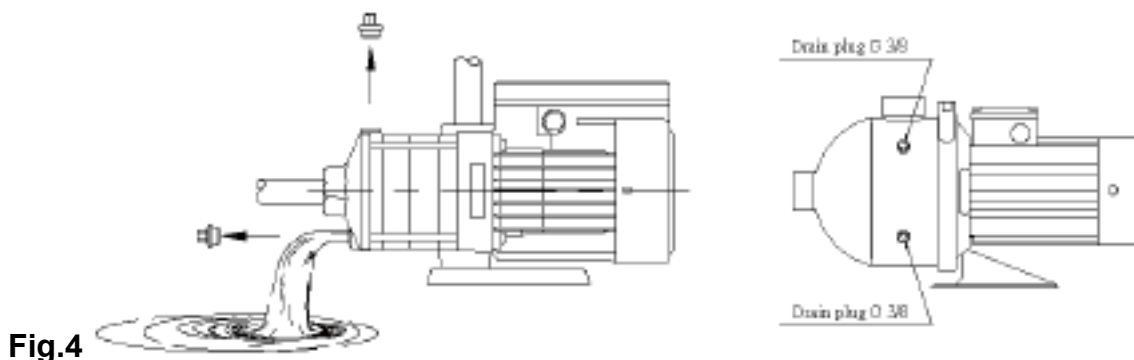
#### Three Phase



## 6. Operation and Maintenance

### Priming (Fig.4)

Before start up, to fill the pump body and suction pipe through the priming plug, bleed off all the air.



**Fig.4**

### Maintenance

No routine maintenance is required.

### Frost protection

Pumps which are not being used during periods of frost should be drained to avoid damage. Remove the priming and drain plugs and allow the pump to drain. Do not replace the plugs until the pump is to be used again.

## 7. Trouble Shooting

(Make sure power supply has been switched off before attempting to diagnose any fault)

Fault	Possible cause
Pump does not run when the motor is turned on	Power supply failure
	Main contacts in motor starter are not making contact or the motor coil is faulty
	Control circuit fuses have blown or are defective
	Pump is blocked by foreign material
	Motor failure
Pump runs but no liquid at discharge	Pump is not primed
	Pump is blocked by foreign material
	Suction or discharge pipe blocked
	Foot valve or non-return valve is blocked
	Suction pipe is leaking
	Suction lift is too far
	Air in suction pipe or pump
Pump capacity is not constant or is reduced	Pump is sucking air
	The pump, suction pipe or discharge pipe is partly blocked
	Inlet pressure too low
	Wrong direction of rotation (three phase motor)
	Suction lift is too far
	Foot valve or non-return valve is partially blocked
Starter overload cuts off power immediately when the power is switched on	Overload setting is too low
	Loose or faulty cable connection
	One fuse is blown (three phase motor)
	Pump is not free to run
	The motor windings are defective
	Low voltage (Especially at peak time)

## LIMITED WARRANTY

Systemflo pumps are warranted to the first user only to be free of defects in material and workmanship for a period of 12 months from date of installation, but no more than 24 months from date of shipment. Systemflo's liability under this warranty shall be limited to repairing or replacing at our discretion, without charges, FOB Systemflo's distribution center or authorized service agent. Systemflo will not be liable for any cost of removal, installation, transportation, or any other charges that may arise in connection with warranty claim.

The warranty period commences on the date of original purchase of the equipment. Proof of purchase and installation date, failure date, and supporting installation data must be provided when claiming repairs under warranty.

This warranty is subject to due compliance by the original purchaser with all directions and conditions set out in the installation and operating instructions. Failure to comply with these instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, incorrect installation, inappropriate chemicals, or additive in the water, inadequate protection against freezing, rain or other adverse weather conditions, corrosive or abrasive water, lightning or high voltage spikes or through unauthorized persons attempting repairs are not covered under warranty.

Systemflo will not be liable for any incidental or consequential damages, losses, or expenses arising from installation, use, or any other causes. There are no express or implied warranties, including merchantability or fitness for a particular purpose, which extend beyond those warranties described or referred to above.

Certain states do not permit the exclusion or limitation of incidental or consequential damages or the placing of limitations on the duration of an implied warranty, therefore, the limitations or exclusions herein may not apply. This warranty sets forth specific legal rights and obligations, however, additional rights may exist, which may vary from state to state.



# SYSTEMFLO

Walrus America Inc.  
20220 Hempstead Road, Suite #30  
Houston, TX 77065

Tel:(281) 955-8035  
Fax:(281) 955-8037  
E-mail: [sales@walrusamerica.com](mailto:sales@walrusamerica.com)