

THE POOL PUMP BLACK SHARK



INSTALLATION AND USER GUIDE



Before the initiation of the installation, please, read carefully the instructions. Installation must be in conformity with the local standards.

1. Application

The pump for swimming pools, the BS model, has the horizontal centrifugal construction.

Its main application is to provide the water circulation in the swimming pool and it's usually installed before the mounting of the filtration equipment. The pump has been constructed for pumping the in-coming and out-coming water in the swimming pool disinfected by the chlorine. The BS pumps have removable basket for the filtration of small solid parts.

2. Technical information

2.1 Maximum temperature of the environment

+40 °C

2.2 Water temperature

0 up to 40 °C

2.3 Maximum admissible operating pressure

2 bars

Note: Maximum strains power 3 kgs

2.4 Maximum input pressure

If the pump operates with a closed valve, the input pressure must be lower than the maximum admissible operating pressure.

2.5 Pressure and a flow

a/ Minimum input pressure

| Type | Maximum suction lift | Maximum self-priming lifts |
|------|----------------------|----------------------------|
| BS | 8m | 4m |

b/ Maximum head of delivery

| Type | H max. |
|---------|--------|
| BS 500 | 11m |
| BS 750 | 14m |
| BS 1000 | 16m |

c/ Maximum flow

| Type | Q max. |
|---------|------------------------|
| BS 500 | 10,2 m ³ /h |
| BS 750 | 10,8 m ³ /h |
| BS 1000 | 12 m ³ /h |

2.6 Self-priming

The self-priming BS pumps are able to reach the depth up to 4m, Self-priming requires following times:

| Type | SUCTION LIFT (m) ø1 ½" | | |
|----------------------------------|------------------------|--------|--------|
| | 2 | 3 | 4 |
| APPROXIMATE TIME OD SELF-PRIMING | | | |
| BS 500 | 1´ | 1´ 40" | 2´ |
| BS 750 | 1´ 20" | 1´ 50" | 2´ 20" |
| BS 1000 | 40" | 1´ 10" | 1´ 40" |

2.7 Electric parameters

| Rank BLACK SHARK | Voltage |
|------------------|---------------------|
| BS 500 | 1x220/230 V 50Hz |
| BS 750 | |
| BS 1000 | |

See also the type tag.

Waterproof type: IP-44

Isolation type: F

2.8 Proportions

See the plan at the end of this guide.

2.9 Noise level

The level of the sound pressure is lower than 70 dB.

2.10 Weights

| Rank BLACK SHARK | Weight |
|------------------|--------|
| BS 500 | 7,5 |
| BS 750 | 9,5 |
| BS 1000 | 11,5 |

3. Installation

The BS pumps for swimming pools are usually installed between the separator and the filter of the pool. The pump must be placed on the straight and solid basement and screwed into the basement by appropriate screws with the shaft in horizontal position and with a guard of the preliminary filter on the top. The transparent guard must be removable in order to take the basket of the preliminary filter out while cleaning it. The suction tube must have at least the same diameter as the suction of the pump. Use straight and short suction pipes with the uniform gradient to avoid long periods of self-priming. In case the length of suction pipes overpass 10 meters, there is a risk of the pressure loss. The pipes must be installed in a way to prevent any release into the indoor climate.

The tubes must be installed so that any pressure changes caused by the temperature variation do not have any influence on the pump.



Plastic pipes and bonds must be connected between in the waterproof way.

In case of using the suction hose, this must be incompressible (with a spiral reinforcement).

The suction pipe/hose must be as short as possible in order to provide appropriate working conditions.

It is recommended to install the stop valves on both ends in order to separate the pump.

Note: The pump doesn't provide the operation with closed bleed valve for the reason of causing the temperature rise and steam development that might damage the pump.

If there is a possibility that the pump should proceed with the closed bleed valve, it is necessary to connect one bypass valve to the dewatering conduit in order to ensure the minimum flow of the liquid through the pump.

It is recommended to install the vibration absorber into the input of the suction and the displacement and between the base plate and the pump in order to minimize possible noise.

3.1 Airing

The pump engine is cooled down by the fan placed on the side. The pump must be installed in the place with good airing conditions (protected against possible frost), preferable in a room.

- a) If the pump is installed outdoor, it must be protected by the appropriate guard.
- b) If the pump is installed in the pit, it is necessary to ensure the sufficient air supply in order not to the engine by insufficient airing (interior temperature can not overpass 50 °C)

4. Electric connection



Ensure the disconnection of the electric current before removing the lid of the junction box, before any removal of the pump and its disassembly.

Electric connection must be proceeded by a professional in conformity with the local standards.

The pump must be fed through the earth-leakage circuit breaker whose operational cut off current does not overpass 30mA

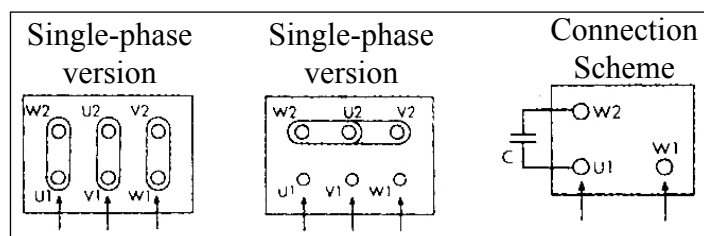
The pump must be connected to the external switch.

Voltage and frequency are distinguished on the type tag. Make sure that the engine is suitable for operating electric supply.

The engine must be connected to the electric supply according to the plan by means of an appropriate cable in conformity with the local standards.

In case the electric supply is damaged, it must be replaced by the producer of this device, his service engineer or another qualified person to prevent the dangerous situation that might occur.

Note: If the engine is overloaded, it disconnects automatically. It will operate again while the temperature drops.



5. Starting-up

Note: Do not start up pumps while watering or cleaning.

The pump is correctly embedded if the water is under the transparent lid.

Arrows designated on the pump box indicate the right direction of the rotation.

Turn off the blow valve, turn the pump on and open slowly the blow valve in order to create the maximum suction capacity while starting-up. If the pump doesn't operate correctly after 5 minutes, turn the pump off and check the water level in the suction pipe and in the pump vessel.

6. Cleaning the basket of the preliminary filter



Make sure that the supply is disconnected and there is no possibility to connect it accidentally before the new proceeding of the pump.

It is necessary to check daily the filtration basket and clean it if needed. Before the opening of the preliminary filter guard turn the supply and blow valve off.



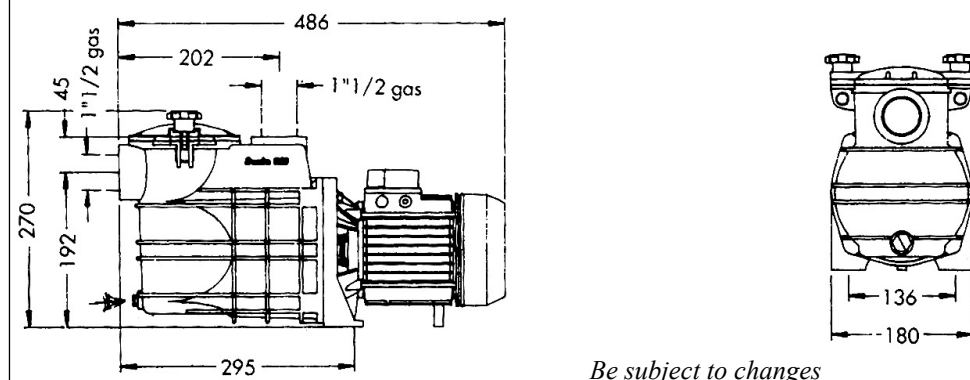
Seal again the pump and close the preliminary filter guard after cleaning. The pump can be put again into operation.

Note: High-pressure cleaning is not allowed.

7. Winter preparation

If the pump is not used in the winter, screw all taps out, empty the pump and all pipes. If you want to empty the pump, unscrew the outlet tap (69) from the pump box. Do not screw the outlet tap again until you use the pump.

Dimension drawing of the BS pump

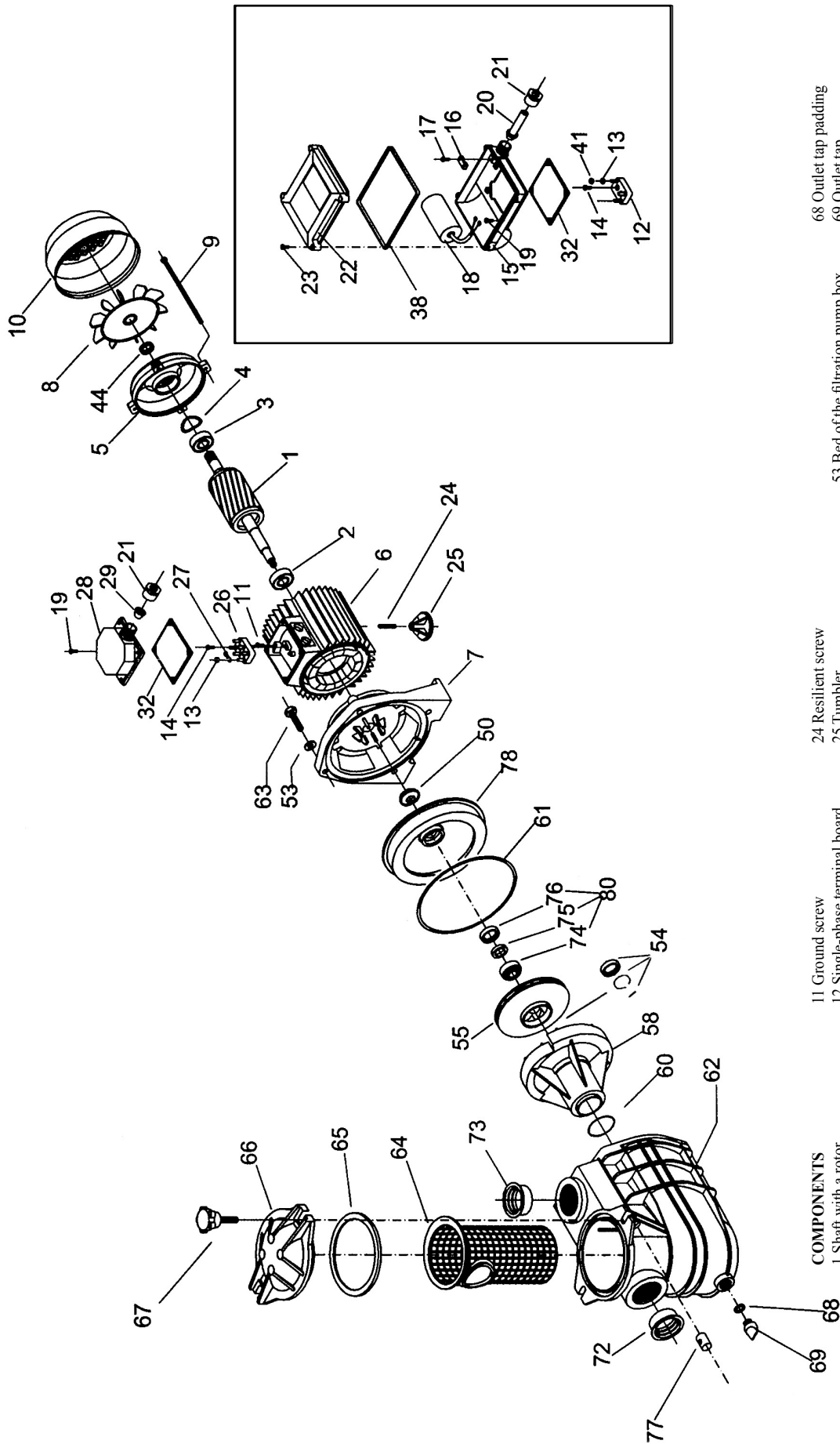


Be subject to changes

8. Maintenance

Make sure that the supply is disconnected and there is no possibility to connect it accidentally before the new proceeding of the pump.

The construction of the pump does not require the maintenance during standard operating conditions. The engine bearings permanently lubricated.



- COMPONENTS**
- 1 Shaft with a rotor
 - 2 Ball bearing of the engine
 - 3 Ball bearing of the engine on the side of the fan
 - 4 Elastic undulating bed
 - 5 Hinder lid of the engine
 - 6 Engine box with winding
 - 7 Flange
 - 8 Fan
 - 9 Engine screw
 - 10 Fan cover
 - 11 Ground screw
 - 12 Single-phase terminal board
 - 13 Terminal board nut
 - 14 Terminal board screw
 - 15 Single-phase terminal box shelter
 - 16 Cable holder
 - 17 Cable holder screw
 - 18 Condenser
 - 19 Terminal board box screw
 - 20 Single-phase cable bushing
 - 21 Supportive cable sleeve
 - 22 Terminal board box lid
 - 23 Screw of the terminal board box lid
 - 24 Resilient screw
 - 25 Tumbler
 - 26 Three-phase terminal board
 - 27 Combiner bridge of the terminal board box
 - 28 Casing of the three-phase terminal box
 - 29 Three-phase cable sleeve
 - 30 Terminal board box padding
 - 31 Padding of the of the terminal board box lid
 - 32 Screw sleeve
 - 33 Fan on the side of the engine
 - 34 Balancing bed
 - 35 Outlet tap padding
 - 36 Outlet tap
 - 37 Suction cover
 - 38 Outflow cover
 - 39 Shaft seal (rotating)
 - 40 Shaft seal (static)
 - 41 Shaft seal (mechanical)
 - 42 Supporting nut
 - 43 Inter-board
 - 44 Complete shaft seal
 - 45 Bed of the filtration pump box
 - 46 Wedge, nut
 - 47 Revolving disc
 - 48 Diffuser
 - 49 Diffuser padding
 - 50 Pump box padding
 - 51 Pump box
 - 52 Pump box screw
 - 53 Filtration basket
 - 54 Padding of the filter shelter
 - 55 Filter shelter(housing)
 - 56 Serrated nut of the filter
 - 57 Resilient screw
 - 58 Three-phase terminal board
 - 59 Terminal board nut
 - 60 Terminal board screw
 - 61 Single-phase terminal box shelter
 - 62 Cable holder
 - 63 Cable holder screw
 - 64 Condenser
 - 65 Terminal board box screw
 - 66 Single-phase cable bushing
 - 67 Supportive cable sleeve
 - 68 Terminal board box lid
 - 69 Screw of the terminal board box lid
 - 70 Shaft with a rotor
 - 71 Ball bearing of the engine
 - 72 Ball bearing of the engine on the side of the fan
 - 73 Elastic undulating bed
 - 74 Hinder lid of the engine
 - 75 Engine box with winding
 - 76 Flange
 - 77 Fan
 - 78 Engine screw
 - 79 Fan cover
 - 80 Outlet tap padding
 - 81 Outlet tap
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 - 83 Outflow cover
 - 84 Shaft seal (rotating)
 - 85 Shaft seal (static)
 - 86 Shaft seal (mechanical)
 - 87 Supporting nut
 - 88 Inter-board
 - 89 Complete shaft seal
 - 90 Bed of the filtration pump box
 - 91 Wedge, nut
 - 92 Revolving disc
 - 93 Diffuser
 - 94 Diffuser padding
 - 95 Pump box padding
 - 96 Pump box
 - 97 Pump box screw
 - 98 Filtration basket
 - 99 Padding of the filter shelter
 - 100 Filter shelter(housing)
 - 101 Serrated nut of the filter

9. Problem solving

| Problem | Cause |
|---|--|
| <p>The pump is running but doesn't fill up.</p> | <ol style="list-style-type: none"> 1. There is no water in the trap with a sieve. 2. The pump is not clean. 3. No water in the pipe/suction hose 4. Incorrect enclosure of the side cover <ul style="list-style-type: none"> - Check the preliminary filter bag - Tighten properly screws of the cover. 5. Suction lift is too high <ul style="list-style-type: none"> - Maximum authorized suction lift is 3m. 6. The mechanical padding leak out |
| <p>Pump doesn't operate reliably.</p> | <ol style="list-style-type: none"> 1. Wrong direction of the rotation (only in case of the three-phase pumps) <ul style="list-style-type: none"> - Change the direction of the rotation. 2. Preliminary filter basket or the separator is dirty or loaded. <ul style="list-style-type: none"> - Clean the preliminary filter bag. 3. Water level in the swimming pool is too low. <ul style="list-style-type: none"> - Increase the water level up to one half of the capacity of the swimming pool. 4. Pipe/hose is partially loaded with the dirt <ul style="list-style-type: none"> - Clean the pipe/suction hose |

Conditions of guarantee

Conditions of guarantee abide by the trading and guarantee conditions of your supplier.

Secure disposal of the product after the lifetime expiry

After the lifetime expiry, ensure its ecologic disposal made by a skilled company

Complaints and customer service

Complaints abide appropriate consumer protection rights. In the event of unrecoverable effect address the written complaint to your supplier.

Date.....

Supplier