



DPL/ DPX

Swimming Pool Pumps



DPL550/750/1100



DPL1100VS



DPX

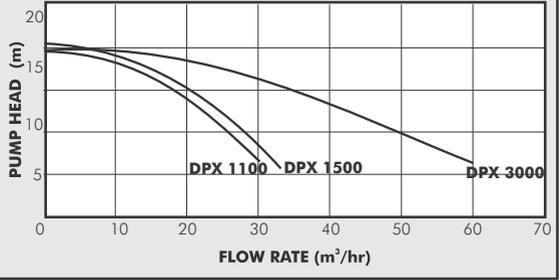
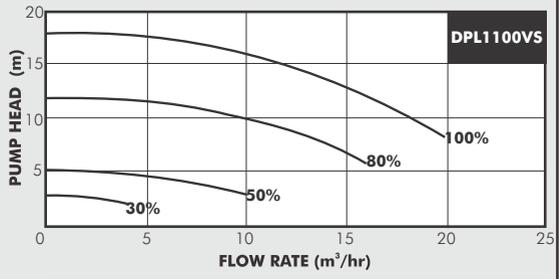
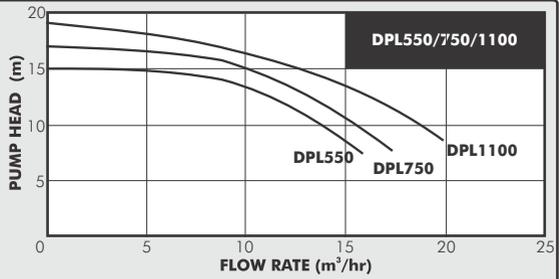
Installation & Operating Manual

INDEX

1. SPECIFICATIONS	1
2. WARNINGS	3
3. INSTALLATION	6
4. OPERATION AND MAINTENANCE	7
5. VARIABLE SPEED PUMP OPERATION	8
5.1 Buttons and display	9
5.2 Speed setting buttons	9
5.3 Pump starting and stopping	9
5.4 High speed start function	9
5.5 Memory function when power off	9
5.6 Over/ under voltage protection	9
5.7 Overload protection	10
5.8 Locked rotor protection	10
5.9 IPM module	10
6. TROUBLE SHOOTING	10
7. TERMS OF WARRANTY	12

Congratulations on selecting a Dayliff DPL/DPX Swimming Pool Pump. They are manufactured to the highest standards and if installed and operated correctly will give many years of efficient and trouble free service. Careful reading of this Installation Manual is therefore important, though should there be any queries they should be referred to the equipment supplier.

1. PUMP SPECIFICATIONS



PUMP

The DAYLIFF DPL range of swimming pool pumps are quiet running and reliable products suitable for all domestic pool applications. All models feature a large strainer basket with easy-open transparent cover and connecting unions and all hydraulic components are made from high strength glass reinforced corrosion resistant polypropylene for long life. Fixed and variable speed model options are available, variable speed providing three pre-set speed options for reduced energy consumption in periods of low pool usage.

The DAYLIFF DPX range of swimming pool pumps are quiet running and reliable products suitable for light and medium duty pool applications. All models feature a large strainer basket with easy-open transparent cover and connecting unions and all hydraulic components are made from high strength glass reinforced corrosion resistant polypropylene for long life.

MOTOR

DPX - Asynchronous 2-pole TEFC motor designed for continuous duty. Single phase motors are provided with built-in thermal overload protection and can be connected directly to the mains electrical supply through a 10A MCB or switch fuse. Three phase motors need to be connected through a DOL starter.

DPL 1100 VS Variable Speed - Asynchronous motor fitted with an inbuilt frequency converter to provide three pre-set operating speeds at 100%, 80% and 50% of maximum as well as a fractional speed adjustment facility down to 30%. Intelligent protection from overvoltage, under voltage, overload and short circuit is also provided for extended motor life. The motor is also suitable for 50&60Hz frequency supply.

Motor control is through an easy to operate control module on the pump which provides various control options and digital speed indication.

Insulation Class: F **Enclosure Class:** IP55 **Voltage:** 1x240V
Speed: 2800rpm

OPERATING CONDITIONS

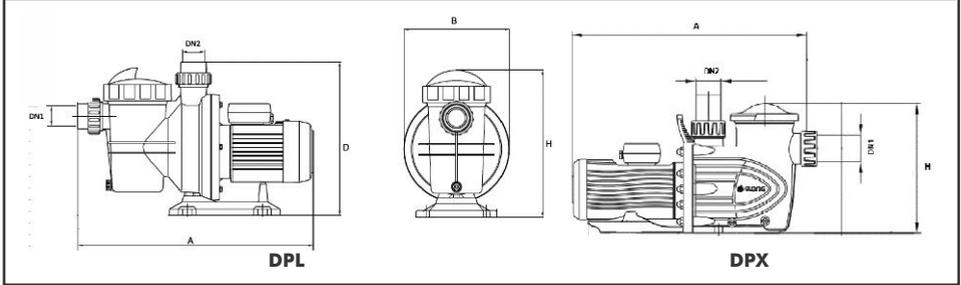
Pumped Liquid: Thin, clean non-chemically aggressive liquid without solid particles or fibers

Max. Fluid Temperature: 60°C

Max Ambient Temperature: -10°C - +40°C

PUMP DATA

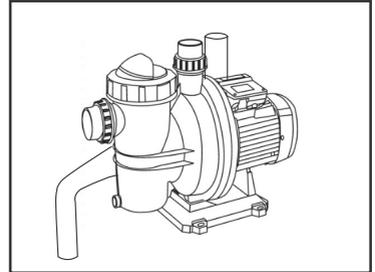
Model	Voltage (V)	Speed (rpm)	Power (kW)	Current (A)	Dimensions (mm)				Weight (kg)	
					DN1/DN2	A	B	D		H
DPL 550	1x240	2850	0.55	4.2	50	550	238	345	330	13
DPL 750			0.75	5.3						14
DPL 1100			1.1	7.4		15				
DPL 1100VS		100%/3500	1.6	9	75	570	358	330	330	15
		80%/2850	0.9	5.5						
		50%/1800	0.4	2.2						
DPX1100		3x415	2850	1.1	6.5	75	656			358
DPX1500	1.5			8.5	24					
DPX3000	3			6.4	708		31			



2. WARNINGS



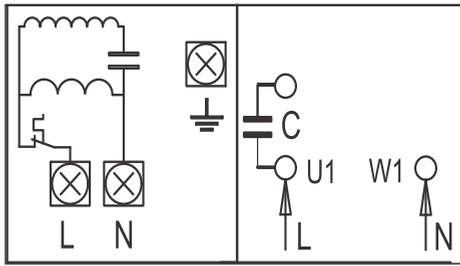
The pump may contain small quantity of residual water from testing. It is advisable to flush briefly with clean water before final installation.



If the controller or motor is damaged, do not install or run the motor; or it may result in equipment damage or personal injury.



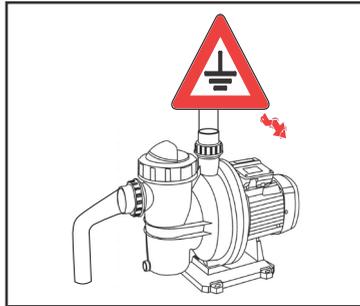
Take note of the technical data shown on the data plate.



The mains voltage must be the same as that shown on the motor plate.



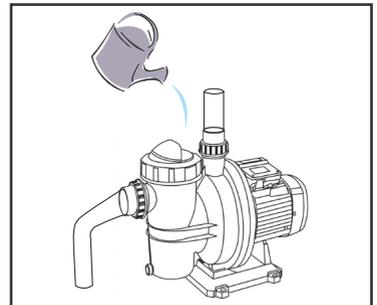
Ensure the earth connection is properly done.



The pump should be installed in a well protected and ventilated place.



The pump should never run dry.



The motor should not be wrapped in plastic bags due to risk of condensation.



Single phase motors are provided with overload protection; they are connected directly to the power mains.



The pump should be turned off before repairing, to avoid accidents.

For DPL 1100VS,



Do not make a static voltage test of the controller, as it will cause damage to the controller.



AC input power must not be connected to output terminals U, V, W of the controller, as it will cause damage to the inverter.



Do not disassemble the cover when the pump is switched on, as it may result in possible electric shock.



When the controller is set on automatic fault reset or after power off, protection measures should be taken otherwise it may result in personal injury.



In the event of failure of On/Off button, a separate emergency power-off button may be installed in the control system, otherwise it may result in personal injury.



Do not touch the terminals of the controller, even in shutdown state as the terminals may still be electrified, otherwise it may result in possible electric shock.



Do not touch the heat sink, as it may be hot and cause injury.



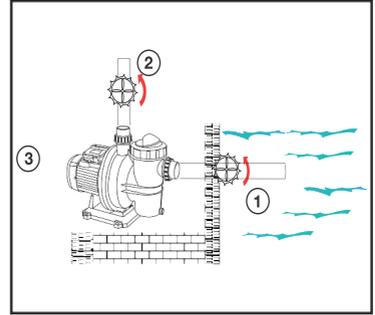
The factory reset parameters have been programmed to meet customer requirements. Do not arbitrarily modify the controller parameters as it may cause equipment damage.

3. INSTALLATION

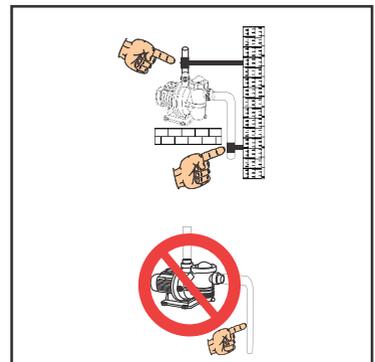
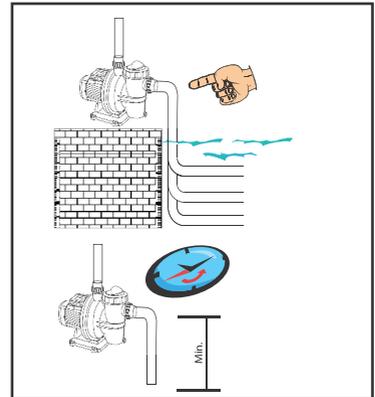


Installation, electrical connection and commissioning must be carried out by skilled personnel in compliance with local safety regulations. Failure to comply with these instructions causes risk to personal safety, damages the equipment and validates warranty.

- Installations should be done on a firm flat base not exposed to flooding.
- Do not over tighten fittings into the inlet and outlet of the pump.
- For installation below water level, fill the pump slowly and completely open the valves in the suction pipe and on the delivery side expel the air.



- For installation above water level, use a shorter suction pipe to reduce priming time.
- Install the pump horizontally as close as possible to the edge of the pool.
- Provide adequate support for the suction and delivery pipes so that they do not weigh down on the pump. Do not make the couplings between the pipes too tight.
- Do not immerse the motor in water.
- To avoid problems in suction, make a positive slope of the suction pipe towards the pump.
- Ensure proper tools and equipment are used for all connections.
- Before starting the motor the first time or when system is drained, the pump should be primed by opening the lid of the pump leaf basket and adding water to cover the basket.
- Weekly maintenance of the pump is recommended. It is important that pump and skimmer baskets are cleaned and any debris removed.





Installation assembly and disassembly must be performed by qualified personnel.



Any modification without prior authorisation relieves the manufacturer of any kind of liability.



Ensure the power is off before connecting the wires or it may result in electric shock or fire.



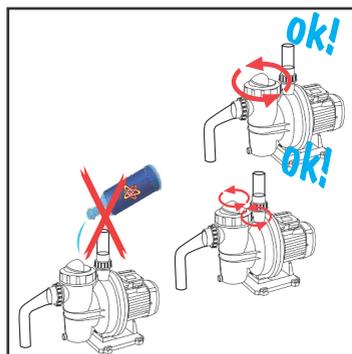
Earth terminal should be grounded or the controller and the motor housing may be electrified.



Do not touch the main circuit terminals. The terminal wires must not make contact with the casing of the controller, otherwise it may result in electric shock.

4. OPERATION AND MAINTENANCE

- Switch the pump/filter off before doing any maintenance, cleaning or other work.
- Only perform maintenance which is described in the instruction manual.
- All other work must be performed by a qualified person.
- In the interest of safety and reliability, only use genuine **Dayliff** spares, or else warranty will become null and void.
- Refer to **Dayliff website - espartes.dayliff.com** for spares support.
- Never run the pump dry i.e without water, as this will damage the impeller and shaft seal.
- Weekly inspection of the pump and filter is recommended.
- It is important that the pump and skimmer baskets are cleaned and any leaves or debris removed before back washing.
- Clean plastic parts with a damp cloth. Aggressive cleaning agents can damage plastic parts.
- Do not wash down the electrical components with water.



- The pump is equipped with a thermal overload protection. If overload occurs during operation, the built-in overload protection automatically deactivates the pump. The pump will switch on automatically after a cooling period of approximately 3 minutes, ensure the cause of the overload is identified and addressed.
- All work listed in this manual must be performed regularly. If this maintenance work cannot be performed by the end user, an authorised person must be commissioned to perform this work. If these operations are neglected, faults may arise which are the responsibility of the user. These include;
 1. Damage to the motor, due to untimely or inadequate maintenance or cleaning of the cooling fan cover.
 2. Corrosion or other damage caused by incorrect storage of chemicals in pump house.
 3. Damage due to the use of spare parts which are not original
 4. Damage due to maintenance and repair work not carried out by qualified technicians



Always wait at least 10 minutes after power off to ensure no residual voltage before maintenance and inspection, otherwise it may cause injury.

5. VARIABLE SPEED PUMP OPERATION

1. Name
2. The display window
3. The power indicator
4. The remote control signal receiver
5. 100% button: the maximum speed setting button (or timing enter button).
6. 80% button: 80% speed setting button
7. 50% button: 50% speed setting button
8. **WARNING!**
Variable Speed Pump fitted with Internal Auto Reset may restart without warning.
9. Speed increase button (or timing setting key)
10. Speed reduction button (or timer setting key)

5.1 Buttons and display

The pump operator panel is equipped with 100% full speed button, 80% speed button, 50% speed button, switch button, speed increase and reduction buttons. The LED screen displays running speed or the maximum speed value corresponding to the percentage of the setting speed. To set speed, press any corresponding speed button either 50%, 80% or 100% then reduce or add as desired using the ▲ ▼ buttons.



Each dial on the buttons increases/ reduces speed by 5%.

5.2 Speed setting buttons

On pressing the speed buttons (100%/80%/50%), the LED screen displays the current set percentage (100%/80%/50%), after 1 second, it will flash 3 times for confirmation. After the system is confirmed, the LED shows the appropriate speed value. For example; if rated speed of the motor is 2820rpm, after setting the speed to 80%, the LED screen will display 80.0; and will flash 3 times indicating set successfully, the display of LED screen will also switch to speed value, as 2256.

5.3 Pump starting and stopping

- When the controller is powered, the motor starts immediately, otherwise the pump needs to start with the start button.
- When the pump is not running on pressing the 100%/ 80%/ 50% button or ON/OFF button, the LED screen will display the setting for 3secs, then the motor will start working.
- When the pump is running, on pressing the STOP button, the controller will cut out the output power, and the motor will be slowly stopped. After the motor is stopped, it can only restart after 3secs.

5.4 High-speed Start Function

After starting at any speed, the motor will run for three minutes in high speed, within three minutes the power light shows red except for the ON/OFF button, the other buttons do not function when pressed. After 3 minutes, the power light turns green from red indicating that the motor can be adjusted for speed. This is a factory setting and cannot be changed.

5.5 Memory function when power off

If the system suddenly loses power, the motor running status will be recorded by the system; If the power is restored, after three minutes high speed running, the system will revert to the original operation mode.

5.6 Over/ Under voltage protection

The pump may not run if the AC voltage detected is more or less than the set Value, which is $> 190V$ but $< 270V$.

5.7 Overload protection

If the operating current is more than the set value of 6.2A, the pump will stop running which is registered as malfunction fault.

5.8 Locked rotor protection

Upon starting the pump, the current is monitored for 5secs, if the value exceeds the set value of 6.2A, the controller will stop the pump which is registered as Locked rotor. After 10seconds, the pump will restart, the current is monitored again and if the situation persists for three consecutive times, the motor will shut down completely which is registered as malfunction of the pump. Rectify the fault and restart the pump.

5.9 IPM module

When IPM fails, the motor stops running immediately which is registered as malfunction. The motor will then clear the fault automatically 30seconds later and restart. After three consecutive attempts, the pump will shut down and will need to be manually cleared/restarted before running.

6. TROUBLE SHOOTING

PROBLEM

POSSIBLE CAUSE

SOLUTION

The pump is not drawing water

No water in the prefilter or clogged prefilter

Clean prefilter

Allow water into suction side

Closed valve in the pipes

Open valves

Air getting into the suction pipe

Prime the suction line

The motor is not running

The electric power supply is turned off

Turn on power

Motor electrical connections are faulty

Check and rectify connection

Motor shaft locked by a faulty ball bearing

Replace ball bearing

Noisy pump

Air getting into the suction pipe

Prime the suction pipe

Presence of foreign bodies in the pump body

Remove foreign bodies

Cavitation

Prime pump and get rid of air

PROBLEM**POSSIBLE CAUSE****SOLUTION**

Low flow rate; low pressure in filter

Basket or impeller clogged

Clean basket or impeller

Air getting into the suction pipe

Prime suction pipe

Low flow rate; high pressure in the filter

Delivery pipe choked

Straighten the pipe

Pump filter clogged

Clean pump filter

Motor overheating

Inadequate section of the power supply cables

Improve thickness of cables

Bad or no ventilation

Increase ventilation

Wrong impeller fitted

Replace the impeller

Wrong capacitor fitted

Replace the capacitor

Mechanical overload from poor quality bearings or impeller or diffuser blocked with grass or other solids

Replace bearings and impellers

Diffuser blocked by debris

Clean the diffuser

The pump is not priming properly

Pump is installed too high above water level of the pool

Fit a spring loaded non return valve into suction line coming up from underground before entering pump

Sucking air

Prime the suction pipe

Diffuser incorrectly fitted inside pump

Correct the diffuser fitting

7. TERMS OF WARRANTY

I) General Liability

- In lieu of any warranty, condition or liability implied by law, the liability of Davis & Shirtliff (hereafter called the Company) in respect of any defect or failure of equipment supplied **is limited to making good by replacement or repair** (at the Company's discretion) defects which under proper use appear therein and arise solely from faulty design, materials or workmanship within a specified period. This period commences **immediately after the equipment has been delivered to the customer** and at its termination all liability ceases. Also the warranty period will be assessed **on the basis of the date that the Company is informed of the failure.**
- This warranty applies solely to equipment supplied and **no claim for consequential damages**, however arising, will be entertained. Also the warranty specifically excludes defects caused by fair wear and tear, the effects of careless handling, lack of maintenance, faulty installation, incompetence on the part of the equipment user, Acts of God or any other cause beyond the Company's reasonable control. Also, any repair or attempt at repair carried out by any other party **invalidates all warranties.**

ii) Standard Warranty

General Terms

If equipment failure occurs in the normal course of service having been competently installed and when operating within its specified duty limits warranty will be provided as follows:-

- **Up to one year - The item will be replaced or repaired at no charge.**
- **Over 1 year, less than two years - The item will be replaced or repaired at a cost to the customer of 50% of the Davis & Shirtliff market price.**

The warranty on equipment supplied or installed by others is conditional upon the defective unit **being promptly returned free to a Davis & Shirtliff office** and collected thereafter when repaired. No element of site repair is included in the warranty and any site attendance costs will be payable in full at standard chargeout rates. Also proof of purchase including the purchase invoice must be provided for a warranty claim to be considered.

DAYLIFF is a brand of **Davis & Shirliff**

for enquiries contact

Davis & Shirliff, Ltd.

P.O. Box 41762 - 00100, Nairobi, Kenya

Tel: 6968000/ 0711 079 000

or visit

www.dayliff.com

for details of the nearest branch or stockist