DAYLIFF

DWXD/V
Drainage Pumps

Installation & Operating Manual

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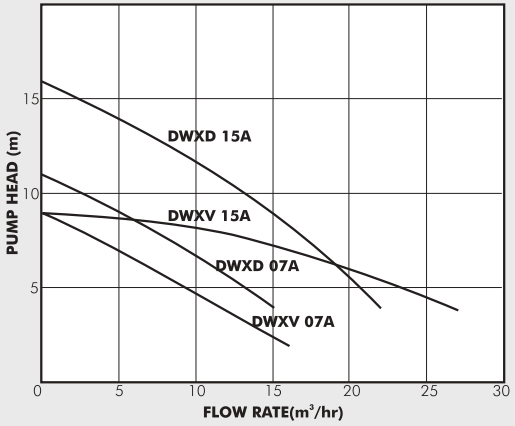
Contents herein are not warranted

Thank you for choosing Dayliff DW pump. The pump has been manufactured to the highest standards and if operated correctly should give many years of efficient and trouble free service. Careful reading of this instruction manual is therefore extremely important and if you have any queries please refer them to your retailer.

1. PUMP SPECIFICATIONS



Pump

The DAYLIFF DWX range of waste water pumps are high specification products for use in various drainage applications. Versions are available with open (DWXD) and vortex (DWXV) impellers. The DWXD model features a jacketed motor casing with top mounted outlet suitable for lightly silted water and can operate partially submerged. The DWXV model features a side outlet and is suitable for heavily polluted waters. Material of construction for both models is AISI 304 stainless steel construction throughout. Other features include single mechanical seals, a low level switch and 10m of power cable for all but DWXV07A which is supplied with 5m cable.

Motor

Pumps are provided with dry type two pole motors designed for continuous duty. They are fitted with integral thermal protectors and can be connected directly to mains power supply through a suitably rated fuse or MCB, though additional protection is recommended where there is risk of voltage fluctuation.

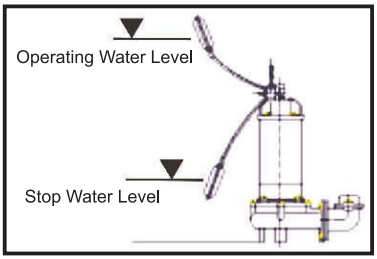
Enclosure Class: IP68
Insulation Class : F

Voltage: 1x240V
Speed: 2900rpm

Pump Data

Model	Power		Current (A)	Outlet (")	Dimensions (mm)					Particle Size (mm)	Weight (kg)
	HP	kW			H1	H2	H3	L	W		
DWXD 07A	0.75	0.55	3.6	1.5	437	357	85	459	178	8	12
DWXD 15A	1.5	1.1	7.2		497	407	85	514			17
DWXV 07A	0.75	0.55	3.6	1.5	403	483	185	433	193	35	11
DWXV 15A	1.5	1.1	7.2	2.0	486	566	268		198	50	15

2. INSTALLATION



- Lower the pump into the well by attaching a chain or rope to the grip to install the pump.
- The pump must not be installed on its side or operated under dry condition. Ensure that it is installed upright on a secure base.
- Install the pump at a location in the tank where there is least turbulence.
- If there is flow inside the tank, support the piping appropriately. The pipes must be installed such as to prevent air lock, if unavoidable, an air release valve must be installed wherever such air pockets are likely to develop.
- The end of discharge pipe should not be submerged as back flow will result when the pump is shut down.
- Install the float switch as shown in the figure above. The pump may not start if the float switch touches the wall of the water tank or the piping.

If the pump is operated continuously for an extended period of time in a dry condition or at the lowest water level, the motor will overload and shut down. Prolonged overheating will shorten pump service life. Do not start the pump again in such a situation until after the motor has completely cooled.

3. ELECTRICAL CONNECTIONS

The installer is responsible for making electrical connections to the mains supply in compliance with relevant local regulations. Ensure that a professional electrician carries out the electrical connections and that the following guidelines are followed:-

- All installations must be provided with an isolator to cut off mains power supply and coarse current protection in the form of a fuse or MCB rated at 2-3 times the full load current as given on the pump plate.
- Ensure that the power supply rating complies with the specification on the pump rating plate.
- Electrical connections must be made according to details in the pump junction box cover and effective earthing must be provided according to local regulations.
- The motors being single-phase are protected against overloads by a thermal overload fitted in the motor windings.

4. MAINTENANCE

- Regularly check the current readings. If fluctuating, foreign matter may be clogging the pump. Also if pump output reduces, foreign matter may be present and the pumps hydraulic end should be checked and cleaned.
- Measure the insulation resistance monthly. The value should be more than 1M ohm. If resistance starts to fall rapidly even with an initial indication of over 1M ohm, this will be an indication of a reduction in motor integrity and a qualified electrician should be consulted.
- To prolong the service life of the mechanical seal, replace the oil in the mechanical seal chamber once a year.
- Water mixed with the oil or cloudy mixtures are indications of a defective mechanical seal which requires replacement. When replacing the oil, lay the pump on its side with filler plug on top and inject suitable amount of turbine oil No.32 (ISO VG-32)
- After 3-5years conduct an overhaul of the pump, for general maintenance.
- Replace the appropriate part when the following conditions are apparent.

	Mechanical Seal	Oil Filter Plug Gasket	Lubrication Oil	O-ring
Replacement guide	Whenever oil in mechanical seal chamber is cloudy	Whenever oil is replaced	Whenever cloudy or dirty	Whenever pump is overhauled
Frequency	Annually	Half yearly	Half yearly	Annually

5. TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump does not start or starts but immediately stops	No power	Check electrical connections
	Electrical fault	
	Faulty circuit breaker	Replace
	Water level is below float switch	Raise water level
	Float switch is not in appropriate level	Adjust the position of the float switch
	Float switch defective	Repair or replace
	Foreign matter clogging pump	Remove foreign matter
	Motor burned out	Repair or replace
	Motor bearing broken	Repair or replace
Pump running but stops after a while	Motor under protection from dry running	Raise water level
	Motor under protection from high liquid temperature	Lower liquid temperature
	Reverse rotation	Correct rotation
Pump vibrates, causing excessive operating noise	Reverse rotation	Correct rotation
	Pump clogged with foreign matter	Disassemble and remove foreign matter
	Piping resonance	Improve piping
	Gate valve closed	Open gate valve

PROBLEM	POSSIBLE CAUSE	SOLUTION
Does not pump adequate volume	Reverse rotation	Correct rotation
	Electrical fault	Check electrical connections
	Discharge head is high	Recalculate and adjust
	High frictional loss	Resize pipe
	Air suction	Raise water level or lower pump
	Leaking from discharge pipe	Inspect and repair
	Clogging of discharge pipe	Remove foreign matter
	Foreign matter in suction inlet	Remove foreign matter
	Foreign matter clogging pump	Remove foreign matter
	Worn out impeller	Replace impeller
Over current	Unbalanced current and voltage	Wait for supply to stabilise
	Significant voltage drop	
	Motor phase malfunction	Inspect connections
	Reverse rotation	Correct rotation
	Lower head. Excessive volume of water	Replace pump with low head pump
	Foreign matter clogging pump	Remove foreign matter
	Motor bearing worn or damaged	Replace bearing

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

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 two years - The item will be replaced or repaired at no charge.**
- **Over two years, less than three 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 & Shirtliff**

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