

Instruction Booklet

Diver submersible pumps in tank applications

This booklet contains instructions for the use and maintenance of the DIVER 75 submersible water pump. The DIVER 75 has been designed to pump clean water not containing abrasive particles. It can be used in tanks and wells with a minimum diameter of 125mm.

The use of the pump for domestic applications and for irrigation and gardening may be subject to local legislation.

Before installing and using the pump, read the following instructions carefully.

The manufacturer declines any responsibility in case of accidents or damage caused by improper use of the water pump or due to negligence or lack of observance of the instructions contained in this booklet or use of the pump under conditions that differ from the ratings on the name plate.

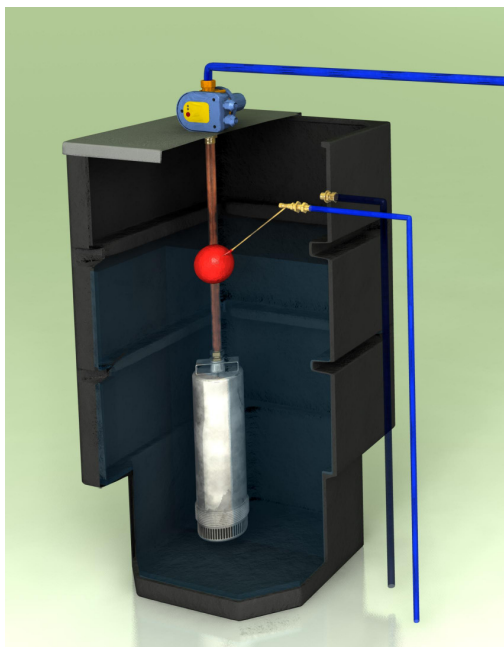
The pump is suitable for use as a submersible booster pump for the provision of a pressurised water supply in residences and commercial premises.

There are three components in a typical pump installation. These are as follows:

1. **DIVER Pump**
The pump is designed to be installed, vertically, in a tank and submerged in clean water. The pump is of highly durable stainless steel construction
2. **ECOPRESS pressure controller**
The water is pumped upward and enters the pressure controller which controls the starting and stopping of the pump. The pressure control may be installed in the piping anywhere down stream of the pump but it must be installed in a vertical position with the water inlet at the bottom and the water outlet at the top.
3. **Control box**
This contains the pump motor capacitor and a thermal protection device.

The pump is suitable for use in applications with up to 40 start/stop cycles per hour and does not require an expansion vessel for correct operation.

However, the use of a small expansion vessel in the system is recommended as it will help to eliminate unnecessary pump cycles caused by dripping taps or small leaks. This will ensure that pump cycles are reduced, thus lengthening pump life and improving long term reliability.



Performance:

Flowrate (l/min)	10	20	30	40	50	60	70	80
Pressure (bar)	3.5	3.3	3	2.6	2.2	1.8	1.4	0.9

Read these instructions completely before using or installing the Diver Submersible Pump

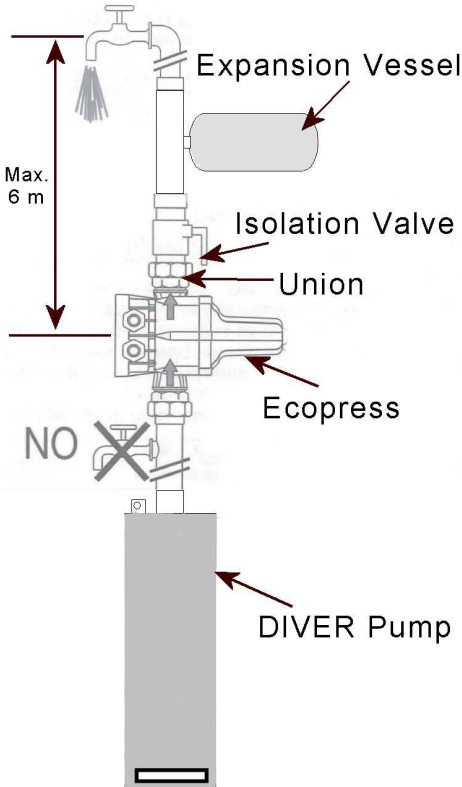
Failure to ensure the integrity of all pipework, joints and fittings may result in flooding and property damage. RVR Limited accepts no liability for damage due to leaks either inside or outside the water tank, or on any components whether supplied by RVR Limited or not. It is the sole responsibility of the installer to ensure the water soundness of the entire system.

LEAVE THESE INSTRUCTIONS WITH THE USER

Installation and Conditions of Use

Limitations

- Temperature of pumped liquid between 0°C and +35°C
- Max depth of immersion 40m.
- Voltage variation allowed +/-5%
- Maximum number of starts per hour : 40
- Maximum water column between Ecopress control and highest water outlet - 6m
- Minimum positive head level: 100mm
- The pump is not suitable for pumping inflammable liquids or for use in locations where there is a danger of explosion
- The pump is not suitable for use in swimming pools or garden ponds



The installation must be carried out by an **competent and qualified installer in accordance with these instructions and all relevant local, national and European standards and codes of practice.**

- Make sure that the water is free from sand, grit and other dirt, and that the dimensions of the tank are sufficient to submerge the pump.
 - Install the Ecopress pressure control and control box in a dry location outside of the water tank. The Ecopress control must be installed in a vertical orientation with the water inlet on the bottom and water outlet on the top. Otherwise the pump will not operate correctly.
 - The pump may be installed with either a metallic pipe (which can be used for suspending the pump) or with a flexible pipe. In the latter case use a stainless steel cable to suspend the pump. The cable should be anchored in the hole on the discharge head of the pump.
 - Never lift or support the pump with the electric cable.
 - The pump should not touch the tank bottom, keep it slightly suspended (with the help of a support) at a height of a few millimetres. This will reduce transmission of vibration and eliminate the introduction of any sediment into the water system.
 - Fasten the electric cable to the delivery pipe to protect it from damage. Do not pull the cable too tight, allow some slack to compensate for the possible heat expansion of the pipe.
- Do not run the pump without water. The Ecopress control will stop pump operation when there is no water and will need to be reset when this occurs.
 - The installer must pressure test the water system fully to ensure there are no leaks before connecting and starting the pump for the first time. The maximum pump pressure is 3.5 bar. The pressure test should be carried out at a pressure of at least 5 bar. Failure to ensure the integrity of all pipe-work, joints and fittings may result in flooding and property damage. **RVR Limited accepts no liability for damage due to leaks either inside or outside the water tank.**
 - The installation of a small (5 litre) expansion vessel on the cold water system will result in reduced pump operating cycles and also eliminate frequent starting due to drips and leaks. The expansion vessel charge pressure should be set to 1.5 bar with no water pressure in the system. The system will operate satisfactorily without an expansion vessel provided the number of start/stop cycles does not exceed 40 per hour.

Electrical Installation

THIS APPLIANCE MUST BE EARTHED

A 220/240V 50Hz single phase supply with neutral and earth is required. All wiring must comply with I.E.E. and all local, national and EU requirements.

Ratings

Pump Model	Motor Power	Rated Current	Capacitor size	Minimum Fuse size
DIVER 75	0.55kW	4.6A	16µF	6A

When a mains lead is supplied, the wires used in the mains lead are coloured in accordance with the following code:

Green/Yellow - Earth
 Blue - Neutral
 Brown - Live

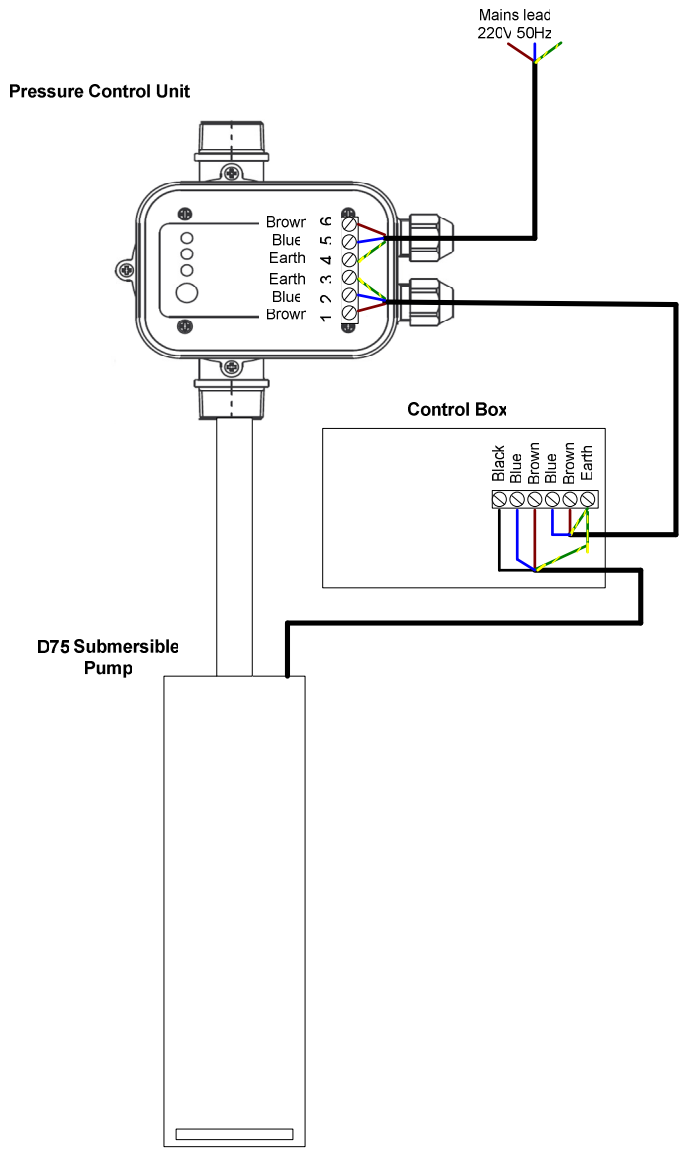
The method of connection to the electricity supply must facilitate complete isolation and should preferably be made via a fused isolator having a contact separation of at least 3mm in all poles and supplying the pump circuit only. The fused isolator should also protect the cable supplying the unit.

A fuse/MCB suitable for the protection of motor loads should protect the circuit to which the pump is connected. The installation of a ground fault interrupter / RCCD-protector is strongly recommended.

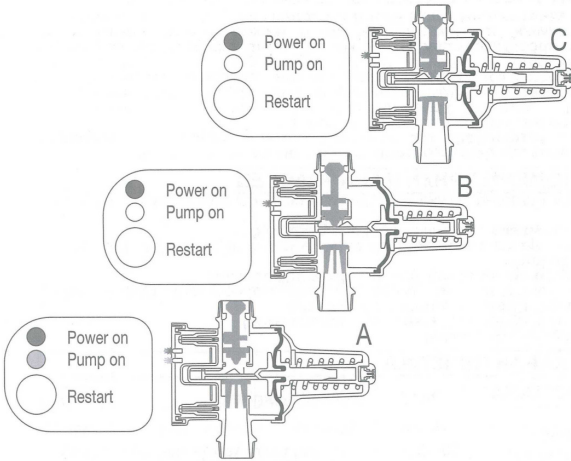
Cable extensions should only be made with a safe and water-proof system.

The DIVER is equipped with a build in thermal overload protector. It disconnects the pump when overheated and automatically starts it again once the temperature has gone down to normal.

The system should be interconnected as shown in the diagram using suitable cable with a cross section of at least 1.5mm².



Operating Instructions



- The Ecopress controller has a green Power on light and a yellow Pump On light. The Power On light indicates that a voltage is connected to the controller. The yellow Pump On light indicates that the pump is running.
- When the power supply is turned on, both the green and yellow lights come on and the pump is started for a few seconds in order to allow the system to build up pressure. If the time is not sufficient, press the red Restart button until water is coming out of an open water outlet.

- The pump will stop and go into Standby mode when the water outlet is closed. The green light will be lit.
- The pump is now ready for automatic operation.
- When a water outlet is opened, the pump starts and runs as long as the outlet is opened.
- After the outlet is closed, maximum pressure is restored to the system, the pump then stops and returns to Standby mode.
- If there is a shortage of water during operation, the Ecopress stops the pump, protecting it from dry running. Once water supply has been restored, the red 'Restart' button is pressed to restore normal

Troubleshooting

Problem	Cause
The pump fails to start	Incorrect electrical connection
The pump starts but fails to deliver water	Water column exceeds 6 m
The pump starts and stops frequently	Leak in system lower than minimum flow
The pump fails to stop	1. Leak in system lower than minimum flow 2. Ecopress control is not installed in vertical position
The pump jams	Water supply problems

Warranty is 12 months from date of delivery provided the product is correctly installed as per these instructions.

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