

# Clarke®



## ELECTRONIC PUMP CONTROLLER MODEL NO: EPC800

PART NO: 7230698

### OPERATION & MAINTENANCE INSTRUCTIONS



LS0714

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## INTRODUCTION

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Thank you for purchasing this Clarke EPC800.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service

**Please keep these instructions in a safe place for future reference.**

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## APPLICATIONS

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This EPC800 can be used to convert pumps into automatic booster sets.

The EPC800 provides 2 main functions:

**1. It provides automatic operation of your pump.**

This in-line device maintains water pressure from booster pumps by instantly sensing water usage and automatically starting or stopping the pump.

**2. It protects the pump from running dry.**

The EPC800 has a built in safety circuit, which switches the pump OFF when there is no water flow.

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## GUARANTEE

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This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

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## SAFETY PRECAUTIONS

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1. DO NOT attempt to modify or alter the controller in any way.
2. Observe all electrical precautions. DO NOT allow the EPC800 to be submerged. Ensure it is protected from the elements at all times.
3. Read and comply with all precautions specified in your pump manual.

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## CONNECTING THE PUMP TO THE EPC800

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The EPC800 is fitted with two cables,

1. One is fitted with a standard 13 amp plug.
  - When connected to the mains supply, this cable carries the supply to both the EPC800 and the pump.
2. The other cable should be fitted with a trailing socket (not supplied).
3. Insert the plug from the pump into the trailing socket.

***IMPORTANT: If the EPC800 is to be connected to an outdoor electrical supply, make sure that both the plug and the socket are of a BS approved waterproof design and are protected from the elements.***

# ELECTRICAL CONNECTIONS



**WARNING: READ THESE ELECTRICAL SAFETY INSTRUCTIONS THOROUGHLY BEFORE CONNECTING THE PRODUCT TO THE MAINS SUPPLY.**

Connect the mains lead to a standard, 230 Volt (50Hz) electrical supply through an approved 13 amp BS 1363 plug, or a suitably fused isolator switch.

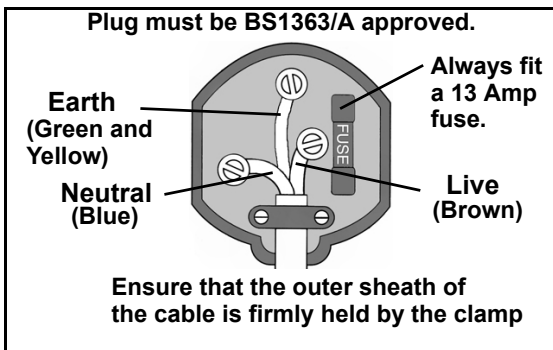
If the plug has to be changed because it is not suitable for your socket, or because of damage, it must be removed and a replacement fitted, following the wiring instructions shown below. The old plug must be discarded safely, as insertion into a power socket could cause an electrical hazard.



**WARNING: THE WIRES IN THE POWER CABLE OF THIS PRODUCT ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE: BLUE = NEUTRAL BROWN = LIVE YELLOW AND GREEN = EARTH**

If the colours of the wires in the power cable do not agree with the markings on the plug.

- The BLUE wire must be connected to the terminal which is marked N or coloured black.
- The BROWN wire must be connected to the terminal which is marked L or coloured red.
- The YELLOW AND GREEN wire must be connected to the terminal which is marked E or  $\perp$  or coloured green.



**We strongly recommend that this machine is connected to the mains supply through a Residual Current Device (RCD)**

**If you are in any doubt regarding electrical installation, you should consult a qualified electrician.**

## EXTENSION CABLES

The maximum length of cable should not exceed 25 metres, and the size of the conductors must be AT LEAST the same size as that on the EPC800.

Ensure that all connections are well clear of the water.

# INSTALLATION

If the column of water between the EPC800 and the highest tap is more than 15m, the unit cannot be installed directly on to the pump. It must be raised until the column of water between the EPC800 and the highest tap is less than 15 m.  
i.e. If column of water is 20 m from the pump, the unit must be placed 5 m higher than the pump.

It is recommended that you connect the unit outlet to the system using a flexible hose.

The unit is equipped with a check valve to prevent the pipeline from losing pressure

Safety valve preventing water emission in case of diaphragm break (MUST NOT BE TAMPERED WITH)

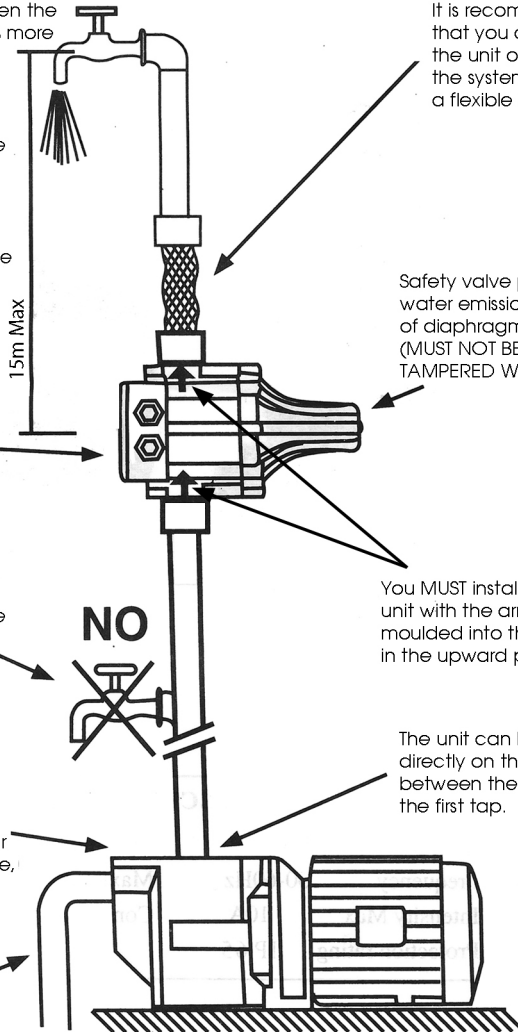
No taps should be installed between the pump and the unit

You MUST install the unit with the arrows moulded into the EPC800 in the upward position.

The unit is pre-set by the manufacturer at a restarting pressure of 1.5 bar. The pressure produced by the pump must be normally 0.5 bar higher than the pre-set pressure, in this case 2.0 bar

The unit can be installed directly on the pump, or between the pump and the first tap.

Before starting the unit check for suction and ensure that the pump is primed.



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# OPERATION

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## STARTING

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CAUTION: ENSURE THE PUMP IS FULLY PRIMED BEFORE SWITCHING ON. SEE YOUR PUMP INSTRUCTION MANUAL FOR DETAILS.

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You should always fit a non-return valve to the suction line. (A foot valve and filter are available from your CLARKE dealer).

1. Close all taps on the discharge side of the pump.
2. After making sure that all precautions have been observed, switch on the pump at the mains supply.
  - The green "Power On" LED will light up and the yellow "Pump On" LED will indicate that the pump has been started.
  - The pump will continue to operate for a few seconds enabling the system to fill and to reach the required pressure.
  - If this amount of time is insufficient, the red LED "Failure" lights up. If this happens, open a tap and keep the "Restart" button pressed until the red LED goes off, then release the button and close the tap. The EPC800 will stop the pump at its maximum pressure.

## RUNNING

The EPC800 is programmed to perform all the pump control operations automatically.

- If you open the outlet tap the EPC800 will detect a drop in pressure and start the pump.

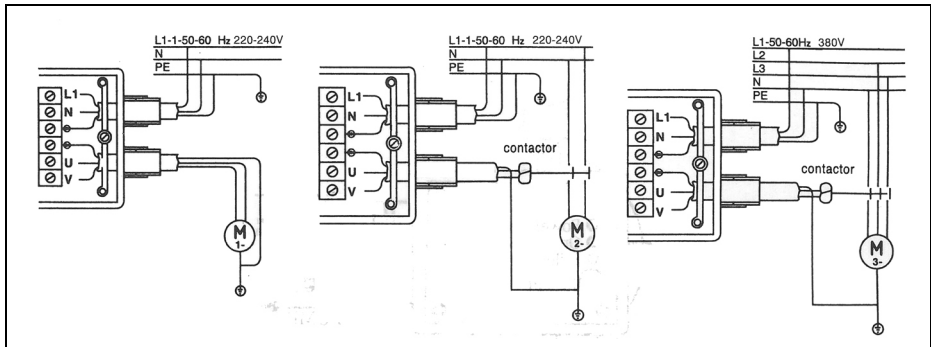
When operational breakdowns occur, such as water loss, obstruction of the suction pipe, etc., the EPC800 recognizes the problem and the red "Failure" led lights up at the same time as the power to the pump is cut to prevent damage caused by dry running

1. Switch off the EPC800 at the mains.
2. Rectify the problem
3. Switch on the EPC800 at the mains and press the RESET button.

**NOTE:** The most common problems associated with water pump operation are leaks on the SUCTION side of the pump. Even a pin hole in the inlet hose is sufficient to seriously reduce suction.

# WIRING DIAGRAMS

## FOR CONNECTING THE EPC800 TO DIFFERENT KINDS OF PUMPS MOTORS



Connection of single phase 220V pumps (up to 1.1 Kw).

Connection of single phase 220V pumps over 1.1 Kw through a remote control switch.

Connection of three phase 380V pumps through a remote control switch.

### SPECIFICATIONS FOR REMOTE CONTROL SWITCH

N/A

Minimum contacts capacity of 4 Kw or 5.5 HP approx. 220V

Minimum contacts capacity of 4 Kw or 5.5 HP approx. 220V

## TROUBLESHOOTING

<b>Problem</b>	<b>Causes related to the EPC800.</b>	<b>Other possible causes</b>
The pump does not start	The internal PCB is broken	Voltage failure Pump jammed Electric cables incorrectly wired
The pump does not stop	The internal PCB is broken The flow detector is blocked in the upper position The reset button is blocked The pump is unable to provide sufficient pressure	Presence of leaks which are higher than the minimum flow 0.6 l/min
-Intermittent pump working	The internal PCB is broken The pump does not provide sufficient pressure	Presence of leaks which are lower than the minimum flow 0.6 l/min
The pump is jammed	The internal PCB is broken The pump provides a pressure which is lower than the restarting pressure	Water failure suction problems
For other possible problems, consult the pump instruction manual.		



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## SPECIFICATIONS

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Input Voltage	220-240V
Frequency	50-60Hz
Maximum Current	10A
Maximum Flow Rate	83 l/min
Maximum Head	50 m
Max. Water Temp.	60°C
Protection Rating	IP65
Maximum Operating Pressure	10 bar
Maximum Temperature Rating	60°C
Connection	1" BSP

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## ENVIRONMENTAL RECYCLING POLICY

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Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility.

# DECLARATION OF CONFORMITY



**Clarke**<sup>®</sup>  
**INTERNATIONAL**

Hemnall Street, Epping, Essex CM16 4LG

## DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2004/108/EC *Electromagnetic Compatibility Directive.*

2006/95/EC *Low Voltage Equipment Directive.*

2011/65/EU *Restriction of Hazardous substances.*

The following standards have been applied to the product(s):

EN 55014-2:1997 +A1:2001 +A2:2008, EN 61000-3-2:2006 +A1:2009 +A2:2009, EN 61000-3-3:2013,

EN 60730-2-6:2008, EN 60730-1:2000 +A16:2007, EN 55014-1:2006 +A1:2009 +A2:2011,

EN 61000-4-2:2009, EN 61000-4-4:2012, EN 61000-4-5:2006, EN 61000-4-6:2009,

EN 61000-4-11:2004.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2008

**Product Description:** Electronic water pump control unit  
**Model number(s):** EPC800  
**Serial / batch Number:** N/A  
**Date of Issue:** 26/03/2014

Signed:

J.A. Clarke  
Director

## ACCESSORIES

Layflat Hoses



- Available in 100 metre coils or per meter.
- Available in 1" - 3" Diameter.

Assorted Hose Clip Set - CHT672



- 26 piece assorted hose clip set in various sizes, including, 8 x 16mm, 6 x 22mm, 4 x 25mm, 2 x 28mm, 2 x 35mm & 4 x 40mm clips.
- Zinc plated for corrosion resistance.

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**Clarke® INTERNATIONAL** Hemnall Street, Epping, Essex CM16 4LG  
[www.clarkeinternational.com](http://www.clarkeinternational.com)