

# Clarke®



## SUBMERSIBLE SEWAGE CUTTER PUMP

MODEL NO: HSEC650A/651A/1400A

PART NO: 7230290, 7230295, 7230243

## OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

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## INTRODUCTION

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Thank you for purchasing this CLARKE Submersible Sewage Cutter Pump.

**The pump is fitted with a tungsten carbide cutter, and is especially suited for heavily polluted water containing waste solids, such as sewage, light slurry etc.**

**This pump is NOT designed for pumping heavy slurry, sludge, mud, salt water, or any water containing chemicals or other acidic contaminants. It is also not suitable for single chamber septic tanks.**

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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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## 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.

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# SAFETY INSTRUCTIONS

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## GENERAL

1. Read all instructions before use and save these instructions for future use.
2. An approved residual current device (RCD) which has a tripping current of less than 30mA **MUST** be used for all operations.
3. The electrical supply must be the same as that on the rating plate.
4. Always make sure that your hands are dry when connecting or disconnecting from the mains supply.
5. Never pull the mains lead to disconnect the pump from the mains socket.
6. The mains plug must be kept away from the water at all times.
7. Do not allow children or unauthorised people to touch the pump, cables or connections.
8. Disconnect the pump from the mains supply when not in use.
9. If necessary have the pump repaired by a qualified person.
10. Keep the mains lead away from heat, oil and sharp edges.
11. If you have to use an extension lead with this product, it must be designed for outdoor use and incorporate a cable suitable for use with Class I appliances.
12. Disconnect the pump from the electrical supply and wear gloves during servicing or maintenance.

## PUMP SPECIFIC

1. Do not pump explosive / flammable liquids or chemicals.
2. Never allow the pump to run dry or operate out of the water.
3. Submersible pumps should always be submerged and stored vertically.
4. Disconnect the pump from the mains supply before placing it into or removing it from the water.
5. Always check the plug, and all cables for damage before use.
6. Do not use the pump if damaged. Refer to qualified service personnel for repair.
7. Never carry or lower the pump by the power cable or float switch always use the handle or a rope tied securely to the handle.
8. Never insert your fingers into the pump whilst it is connected to the mains.
9. Never use the submersible pump in a swimming pool when there are people or animals in the pool.
10. Keep the pump clear of any sediment by standing it on a platform or brick or suspending it at a suitable depth.
11. Do not use the pump if the water is liable to freeze, as this can cause damage to the pump. Remove the pump from the water and store it in a frost free location.

# ELECTRICAL CONNECTIONS



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

We recommend that these pumps **MUST** be fitted with a Residual Current Device (RCD), with a rated residual operating current of no greater than 30mA. This is mandatory when pump is used for pumping swimming pools

**HSEC1400A + HSEC650A** should have their mains lead connected to a standard 230 volt (50Hz) electrical supply through an approved plug or a suitably fused isolator switch.

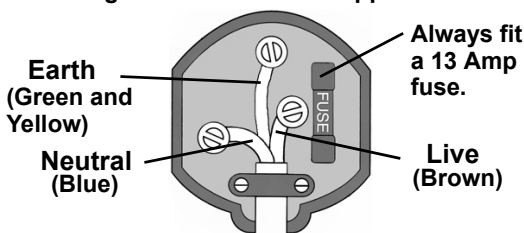


**WARNING: THE WIRES IN THE POWER CABLE OF THIS PRODUCT ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:**  
**BLUE = NEUTRAL    BROWN = LIVE    YELLOW AND GREEN = EARTH**

As the colours of the flexible cable of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- 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**.

**Plug must be BS1363/A approved.**



**Ensure that the outer sheath of the cable is firmly held by the clamp**

**HSEC651A** must be connected to a protected 110V supply, through a suitably approved connector. On no account must a 230V, 13amp plug be used.

**NOTE:** If a portable 110V transformer is used, make sure it has a rated capacity sufficient to take the load of the pump.

In the event that the pump is hard-wired into the electrical system, it must be carried out in accordance with IEE regulations.

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## USING THE PUMP

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**WARNING: CHECK THE PUMP FOR DAMAGE BEFORE USE, DO NOT USE THE PUMP IF IT IS DAMAGED IN ANY WAY.**

**WARNING: THE WATER BEING PUMPED WILL BE POLLUTED IF THIS PUMP BECOMES DAMAGED AND LUBRICANT WITHIN THE PUMP ESCAPES.**

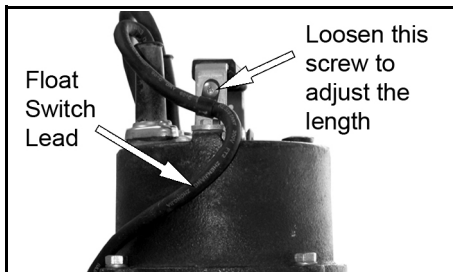
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1. Using the adaptor if required, connect a suitable hose (not supplied) to the pump outlet.
  - Suitable hoses are available from your local Clarke dealer.
2. Place the pump vertically on a flat surface in the area that you want to drain.
  - If there is sediment in the area, place the pump on house bricks, or similar.
  - Ensure the pump is positioned with adequate space so that the movement of the float switch is not restricted - recommended minimum area of 50 x 50 cm.
  - ALWAYS raise and lower the pump using a rope attached to the lifting handle.
  - Take all necessary precautions as described on page 3.
  - The pump inlet must be fully submerged before the pump is switched on.
3. Connect the mains plug to a high sensitivity residual current device (RCD) which has a tripping current of less than 30mA.
4. Switch the mains power supply on.
  - The pump will begin to drain water.
  - As the water level falls, so will the float switch, until it stops the pump.



- You can adjust the position at which the float switch lead is held to the pump. Adjusting the length of the float switch lead will change the depth of water at which the pump will turn on or off.

5. When the pumping is finished, disconnect the pump from the mains power supply.



CAUTION: DO NOT ALLOW THE PUMP TO RUN DRY

## OVERLOAD SWITCH

These pumps are fitted with a thermal overload switch. If the pump overheats for any reason, it will automatically switch the pump OFF. Once the pump has cooled (at least 5-10 minutes), it will automatically restart.

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# MAINTENANCE

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**WARNING: BEFORE CHECKING THE CONDITION OF THE PUMP, ENSURE IT IS UNPLUGGED FROM THE MAINS SUPPLY. IF THE UNIT IS HARD WIRED, ENSURE THE CIRCUIT BREAKER IS OPEN.**

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This pump should require no maintenance other than regular cleaning.

If the pump starts to show signs of wear or damage, contact your CLARKE dealer for advice.

## CLEANING

1. Check the pump installation regularly to ensure the water inlet is clear of leaves or other debris.
2. Take extra care to remove any debris from around the impeller.

**NOTE:** Do not attempt to repair the pump yourself. Repairs must be carried out by your CLARKE dealer, or contact the CLARKE Service Department.

## STORAGE

When the pump is not being used for extended periods, clean and dry it thoroughly and store it indoors. If the pump is left in water, it must be run at least once a week to prevent it from seizing up.

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## SPECIFICATIONS

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	HSEC650A	HSEC651A	HSEC1400A
Part Number	7230290	7230295	7230243
Outlet Diameter	2" BSP (inc 2" BSP to 50 mm Hose Adaptor)		
Voltage	230V/50hz	110V/50Hz*	230V~50Hz
Motor Wattage@ max flowrate	665W	665W	1400 W
Fuse Rating (amps)	13		13
Cable length (m)	10	10	10
IP Rating	IP68	IP68	IP68
Max. Head (m)	9.5m	9.5m	13 m
Dimensions (D x W x H) mm	240 x 180 x 420	240 x 180 x 420	228 x 305 x 478
Weight	17	17	29.85.5 kg
Maximum Depth	5m	5m	6 m

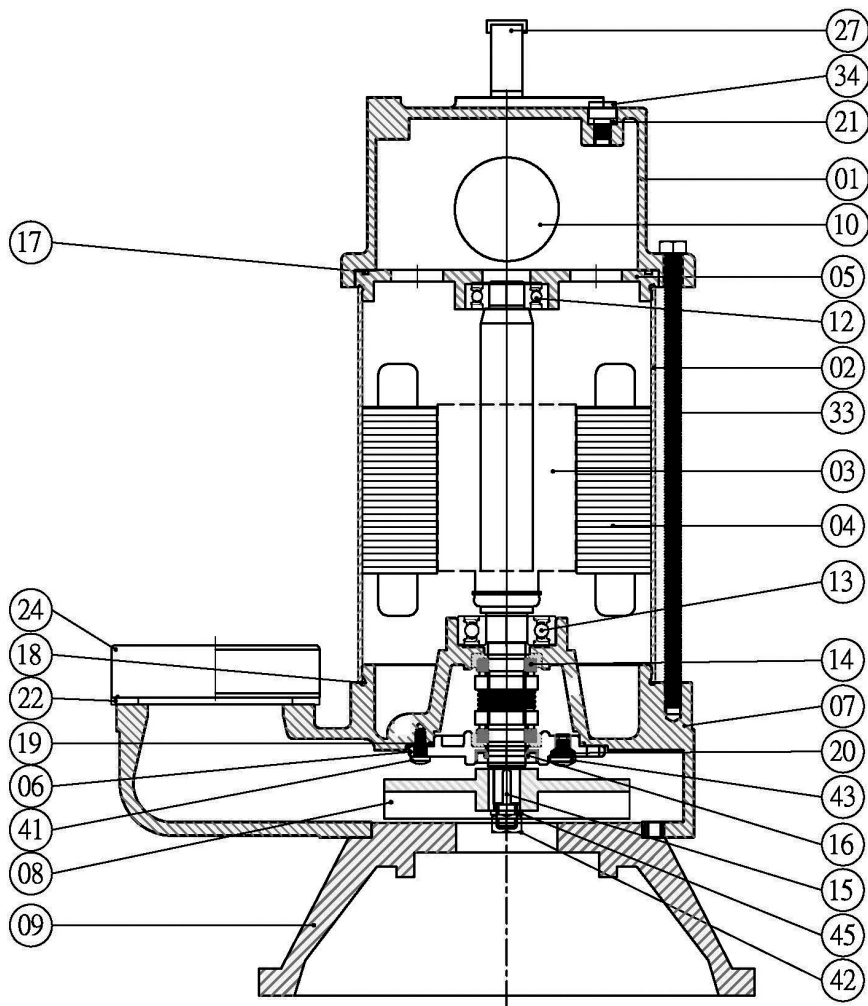
# TROUBLESHOOTING

PROBLEM	SOLUTION
PUMP WILL NOT START	<ol style="list-style-type: none"> <li>1. Make sure that the power is switched on.</li> <li>2. Check fuse (consult an electrician if in doubt).</li> <li>3. If extension lead is fitted, check connections (consult an electrician if in doubt).</li> <li>4. Internal thermal cut-out has not re-set. Leave for 5-10 minutes and try again.</li> <li>5. The impeller may be jammed. Disconnect from the mains supply and remove any objects that may be obstructing the impeller.</li> <li>6. Float switch may be jammed against side wall, or prevented from moving.</li> <li>7. Water level too low - float switch in OFF position - lift float to check switch.</li> <li>8. If the pump still fails to start, consult your CLARKE dealer for advice.</li> </ol>
PUMP WILL START BUT NOT PUMP	<ol style="list-style-type: none"> <li>1. Check that the inlet is not blocked.</li> <li>2. Check that the discharge tube is not clogged or obstructed.</li> <li>3. The head may be too great, i.e. you are trying to lift the water too great a distance for the pump to cope with. ("Specifications" on page 7).</li> <li>4. Air bubble in the pump, produced during the plunge. Plunge the pump again, at an angle, and shake it whilst lowering to remove any air trapped in the system.</li> <li>5. Impeller may be damaged - Consult your CLARKE dealer.</li> </ol>
PUMP WILL NOT STOP	<ol style="list-style-type: none"> <li>1. Float switch may be prevented from moving to the fully down position.</li> <li>2. Float switch may be faulty. Consult your CLARKE dealer for advice.</li> </ol>
PUMP STOPS RUNNING	<ol style="list-style-type: none"> <li>1. Thermal overload has operated. Leave for 5-10 minutes and try again.</li> <li>2. Pump has run dry, or float switch has cut in.</li> <li>3. A foreign object has jammed the impeller.</li> </ol>

If this does not solve your problem, please contact the Clarke service department.



# PARTS DIAGRAM HSEC1400A

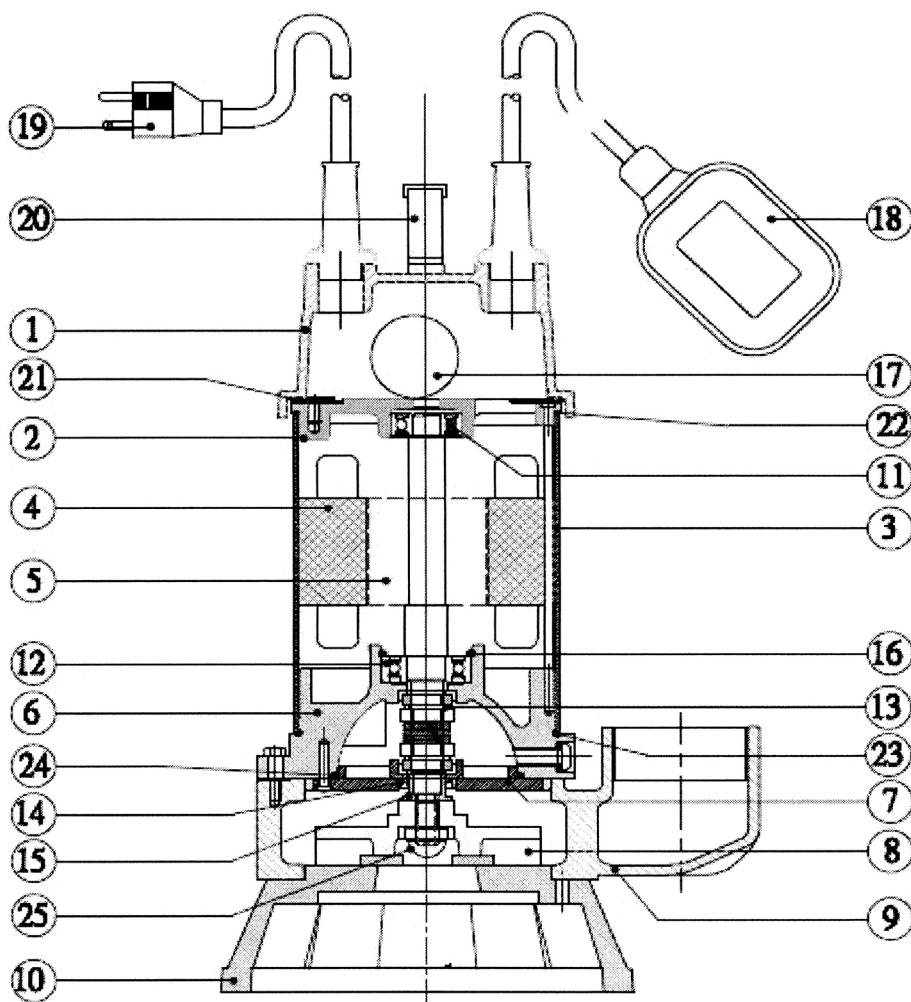


## PARTS LIST HSEC1400A

1	Motor Cover	20	O-ring (Oil Hole)
2	Motor Housing	21	Gasket (Leak Test Hole)
3	Rotor	22	Gasket (Flange)
4	Stator (240V/50HZ)	23	Gasket (Cable)
5	Bearing Cover	24	Flange
6	Oil Seal Cover	25	Hose tail
7	Pump Housing	27	Handle
8	Cutter Impeller (50HZ)	28	Float Switch
9	Strainer	29	Power Cable Set
10	Capacitor	33	Cable Clamp
12	Upper Bearing	34	Cable Fastener
13	Lower Bearing	35	Screw (Cable Clamp)
14	Double Mechanical Seals	36	Screws (Cable)
15	Key	37	Screws (Motor Housing)
16	Oil Seal	40	Screws Strainer)
17	O-ring (Motor/Bearing Cover)	41	Screw (Flange)
18	O-ring (Pump Housing)	42	Nut (Cutter Impeller)
19	O-ring (Oil Seal Cover)	45	Spring Washer (Cutter Impeller)

Part number = (HGHSE14 + the number of the part)

# PARTS DIAGRAM HSEC650A/651A



## PARTS LIST HSEC650A/651A

No	HSEC650A	HSEC651A	DESCRIPTION
1	HG650A01	HG651A01	Upper Cover
2	HG650A02	HG651A02	Top Bearing Cover
3	HG650A03	HG651A03	Motor Housing
4	HG650A04	HG651A04	Stator
5	HG650A05	HG651A05	Rotor
6	HG650A06	HG651A06	Seal Cover
7	HG650A07	HG651A07	Seal Plate
8	HG650A08	HG651A08	Impeller
9	HG650A09	HG651A09	Pump Casing
10	HG650A10	HG651A10	Strainer
11	HG650A11	HG651A11	Top Bearings
12	HG650A12	HG651A12	Lower Bearing
13	HG650A13	HG651A13	Double Mech Seal
14	HG650A14	HG651A14	Oil Seal
15	HG650A15	HG651A15	Sleeve
16	HG650A16	HG651A16	Lock Ring
17	HG650A17	HG651A17	Capacitor
18	HG650A18	HG651A18	Float Switch
19	HG650A19	HG651A19	Power Cable
20	HG650A20	HG651A20	Handle
21	HG650A21	HG651A21	Packing
22	HG650A22	HG651A22	O-Ring
23	HG650A23	HG651A23	O-Ring
24	HG650A24	HG651A24	O- Ring
25	HG650A25	HG651A25	Nut

# DECLARATION OF CONFORMITY



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

Hennall 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 61000-6-4:2007, EN ISO 12100-1:2003 +A1:2009, EN ISO 12100-2:2003 +A1:2009, EN ISO 14121-1 :2007, ISO/ TR 14121-2:2007, EN 60204-1: 2006 + A1:2009.*

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: 2011

**Product Description:**      Submersible Sewage Cutter Pump  
**Model number(s):**      HSEC1400A  
**Serial / batch Number:**      N/A  
**Date of Issue:**      05/02/2015

**Signed:**

**J.A. Clarke**  
**Director**

# DECLARATION OF CONFORMITY



## DECLARATION OF CONFORMITY

This is an important document and should be retained.



**We declare that this product complies with the following directives:**

89/336/EEC      *Electromagnetic Compatibility directive, (amended 2004/108/EC).*

2006/95/EC      *Low Voltage Equipment directive (amended by 93/68/EEC).*

98/37/EC      *Machinery Directive*

2002/95/EC      *Restriction of Hazardous substances*

**The Following Standards have been applied to the product:**

EN 55014-1:2001+A1+A2,      EN 55014-2:1997+A1      EN 61000-3-2:2000

EN 61000-3-3:1995+A1

The technical documentation required to demonstrate that the products meet the requirements of the Low Voltage Equipment directive has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: **2006**

**Product Description:** Submersible Water Pump

**Model number(s):** HSEC650A

**Serial / batch Number:** Current Manufacture.

**Date of Issue:** 23/07/2009

*Signed*

A handwritten signature in black ink, appearing to read "A.C. Aiken".

A.C. AIKEN

Senior Manager Clarke International.

# DECLARATION OF CONFORMITY



**Clarke<sup>®</sup>**  
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Hemnall Street, Epping, Essex CM16 4LG

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

89/336/EEC      *Electromagnetic Compatibility Directive, (amended 93/68/EC).*  
98/37/EC        *Machinery Directive.*  
2006/95/EC     *Low Voltage Equipment Directive, (amended 93/68/EEC).*  
2002/95/EC     *Restriction of Hazardous substances*

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

EN 55014-1:2000+A1+A2, EN 55014-2:1997+A1, EN 61000-3-2:2000, EN 61000-3-3:1995+1995+A1  
BS EN 60335-1:2002+A1+A2, BS EN 60335-2-41:2003

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: 2006

**Product Description:**            110V Cutter Pump  
**Model number(s):**                HSEC-651A  
**Serial / batch Number:**        N/A  
**Date of Issue:**                    20/03/09

**Signed:**

**J.A. Clarke**  
**Managing Director**

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