

Clarke®

PUMP



BOOSTER PUMP MODEL NO: CBP900

PART NO: 7239201

OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC09/22

INTRODUCTION

Thank you for purchasing this CLARKE booster pump.

This non-submersible centrifugal pump is designed to pump clean water for spraying and irrigation purposes and for pumping water to greenhouses. It can also be used for boosting running water feed pressure (not drinking water) or for pumping out wells or ponds. Do not operate with contaminated or salt water.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully.

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

GUARANTEE

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.

ENVIRONMENTAL RECYCLING POLICY



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.

If disposing of this product or any damaged components, do not dispose of with general waste. This product contains valuable raw materials. Metal products should be taken to your local civic amenity site for recycling of metal products.

SPECIFICATION

Water Classification	Clean
Maximum Delivery	5800 L/hr
Maximum Head	32 m
Operating pressure	3.2 bar
Max Operating Temperature	0-35°C
Max particle size	0.15 mm
Ingress Protection Rating	IPx4
Supply	230V ~ 50Hz
Rated Power	900 W
Input Current@ Maximum Head	3 A
Input Current@ Maximum Flow	3.9 A
Outlet Thread Size	1" BSP Female
Weight	8.2 kg
Length x Width x Height	400 x 160 x 300 mm
Sound pressure level	47.5 dB LpA
Sound Power Level	61 dB
Guaranteed sound power level	63 dB

GENERAL SAFETY PRECAUTIONS

Before using this equipment it is in your own interest to read and pay attention to the following safety rules.



WARNING: ALWAYS CONNECT THE PUMP TO AN EARTHED POWER SUPPLY VIA AN RCD.

1. ALWAYS keep the working area clean and well lit. Floors should always be kept clear. Cluttered or dark areas invite accidents.
 2. NEVER over-reach. Keep your proper footing and balance at all times when installing or maintaining the pump.
 3. NEVER direct any water discharge towards electrical wiring or equipment.
 4. ALWAYS thoroughly familiarise yourself with this pump & its operation, and follow all instructions in this manual. NEVER allow persons unfamiliar with these instructions to instal or operate the pump.
 5. ALWAYS ensure that the pump is properly installed to prevent it from moving during operation, and that the immediate area surrounding the pump is kept clear.
 6. ALWAYS maintain the pump with care and keep it clean for best / safest performance.
 7. NEVER modify this pump in any way. Use it only for the purpose for which it is designed.
 8. NEVER use for pumping flammable liquids or corrosive chemicals. This pump is designed to pump clean water only.
 9. ALWAYS have the pump serviced by your local CLARKE dealer, using only identical replacement parts. This will ensure the safety of the pump is maintained. The use of non standard parts could be hazardous.
 10. NEVER use this product if any part is damaged. Have it inspected and repaired by your local CLARKE dealer. ALWAYS turn the pump off before carrying out any maintenance.
 11. NEVER allow the pump to run dry.
-



CAUTION: THIS PUMP IS NOT A SUBMERSIBLE PUMP. ON NO ACCOUNT SHOULD IT EVER BE IMMERSSED IN WATER.

ELECTRICAL CONNECTIONS




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

Before switching the product on, make sure that the voltage of your electricity supply is the same as that indicated on the rating plate. This product is designed to operate on 230VAC 50Hz. Connecting it to any other power source may cause damage.

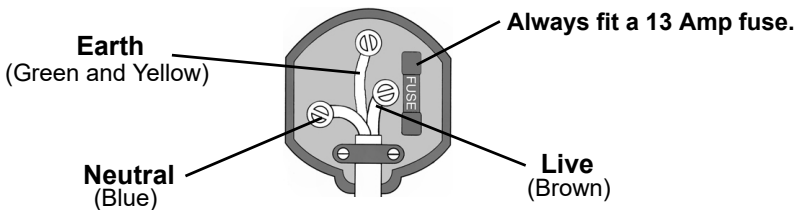
This product may be fitted with a non-rewireable plug. If it is necessary to change the fuse in the plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a suitable replacement is obtained.

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

If the colours of the wires in the power cable of this product do not correspond with the markings on the terminals of your plug, proceed as follows.

- The **Blue** wire must be connected to the terminal marked **N** or **coloured black**.
- The **Brown** wire must be connected to the terminal marked **L** or coloured red
- The **Yellow and Green** wire must be connected to the terminal marked **E** or  or coloured **Green**.

Plug must be BS1363/A approved.



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

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD). If in any doubt, consult a qualified electrician. DO NOT attempt any repairs yourself.

INSTALLATION OF THE PUMP

IMPORTANT: The pump MUST NOT be connected to the mains power supply until all hose/pipe installations are completed.

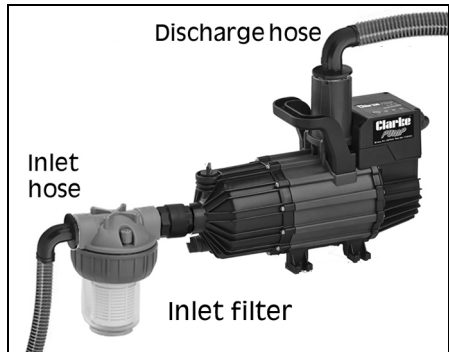
INSTALLATION LAYOUT

The pump must always be installed and operated in a horizontal position using the fixing holes in the base to secure it in position.

The illustration shows typical pipework connection including an inlet filter and hose adapters listed on page 16.

When mounting the pump on a raised base it will be necessary to allow clearance for the filter. Mount the pump securely on blocks or a purpose built platform to protect it from flooding.

The suction lift i.e. the vertical distance between the water level and the pump, should not exceed the distance specified.



Where the pump is to be a permanent fixture the fittings to the pump MUST be flexible, i.e. a short piece of hose should be inserted between any rigid metal pipework and the pump.

To prevent unnecessary strain or possible distortion to the pump, ensure that adequate support is provided to the hoses and/or pipes. Remember they will be considerably heavier when filled with water.

The pump is resistant to splashing from any direction but should on no account become submerged. Ensure there is adequate air circulation around the motor. The pump should be installed in a dry, well ventilated enclosure, sheltered from rain and with an environment temperature not higher than 35°C.

Always place the pump as close as possible to the water to be pumped but be positioned so as to avoid the possibility of immersion. The power supply should also be a safe distance away. If in doubt, please contact your electrician and refer to national regulations.

Ensure the pump & its power cable do not create a safety hazard for people walking past it. The length of the power cable on the pump limits the distance from the power source. If an extension cable is required, ensure it is compatible with the cable supplied.

SUCTION LIFT OR GRAVITY FEED

SUCTION LIFT

It is possible to draw water up from a sunken pool or well.

GRAVITY FEED

The pump can draw water from an above ground tank.

PIPELINE FITTINGS REQUIRED

Because of the variety of possible installations, no plumbing accessories are supplied with your pump. However, accessories designed specifically for this pump are available from your CLARKE dealer.

The performance of your pump will be affected by the diameter of the inlet pipe - any restriction will greatly reduce the flow. We recommend that you use a diameter which is as large as practicable with a suitable reducer for connection to the 1" BSP inlet adapter. The delivery hose should be attached to the outlet adapter (not supplied).

CONNECTIONS AND HOSES

In case of a fixed installation, it is recommended that you fit a non-return valve on both sides of the pump. This allows closure of the line upstream and/or downstream from the pump, useful for service and cleaning operations or for periods in which the pump is not in use.

A 1" BSP hose adapter will be required for connection to the inlet and outlet ports. These are available from your CLARKE dealer.

A foot valve and filter should be fitted to the lower end of the suction hose as illustrated, so as to help retain water in the suction system and to prevent the possibility of large foreign bodies arriving at the pump.

A gate valve may be installed in-line on the outlet side of the pump which can be set as required to regulate the flow of water. Do not place any such restriction on the suction side of the pump unless it is an isolator valve in a gravity fed system.



PRIMING THE PUMP

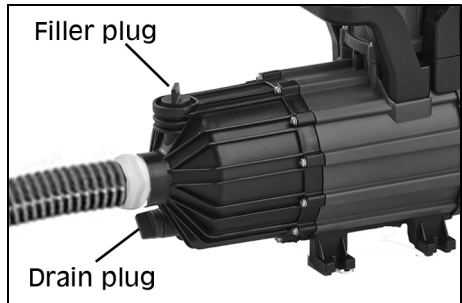
When suction lift is used to draw water into the pump it is essential that all connections and hoses are completely air tight or the system will not work.

It is necessary to completely fill the inlet side of the pump with water before being started for the first time or if the system has been drained for maintenance/repair. This is carried out as follows:-

1. Remove the small filler plug on the top of the pump chamber and fill the pump with water until all air is expelled.
2. Adjust any valves which may be fitted to the discharge side of the pump so as to ensure as great a flow as possible.
3. Switch on the pump and check for leaks. Water should quickly start to flow through the system. If, depending upon the suction depth, water does not flow, check to ensure:
 - The inlet pipe is secure and free from defects. Even a pin hole could prevent the pump from drawing water efficiently. This is the most common problem encountered when operating water pumps.
 - The pump body has been primed correctly and is completely filled with water.

NOTE: If the pump is gravity or pressure fed, priming will not be necessary as the pressure of water will purge the system of air.

The pump should never be operated with any delivery valve or tap completely closed.



THE CONTROL PANEL

The "Power On" indicator light indicates that there is power to the pump.

Press the "Reset" button to start the pump running. It may also be that the pump is in pressure holding and stopped state. When the pressure on the discharge side is lower than the starting pressure, the pump will automatically start pumping.

- The "Power On" indicator lamp indicates that the pump is pumping normally.

When the "Power On" indicator flashes, it indicates that the pump is in the pressurised and stopped state and there is pressure in the discharge pipeline. Pressing the "Reset" key is invalid.

When the water intake or the resulting pressure drops, the pump will restart.

- "Power On" indicator light will be illuminated.

When the "Pump On" light and "Failure" light are illuminated it shows that the pump is pumping but there is no water in the pipeline. For example, there will be no water for about 8 seconds.

- The pump will be in stopping state.

When the "Pump on" light and "Failure" light are illuminated, pressing "Reset" key will restart the pump again. The pump will stop working because it is indicated that there is a fault, which may be no water supply, filter mesh blockage, water supply pipe leakage or pump parts damage. Check and fix the problem according to "Troubleshooting".

- The "Power On" indicator light is illuminated
- The "Failure" indicator light flashes. (one second each time). At this time, pressing the "Reset" key will be not work. Only after pulling out the plug to correct the malfunction, can the power be reinstated to start the pump. Indicate that there has been a fault and the pump has stopped working. This may be a leak in the pressure line or the pump headseal seal is leaking. The machine closes and opens frequently to start protect the function.



START-UP



CAUTION: DO NOT START THE PUMP WITHOUT HAVING COMPLETELY FILLED IT WITH WATER.

1. Plug the power cable into a 230 V power socket and switch on.
2. The pump motor will start and water will start to flow through the system. There may be some delay before water is discharged, depending on the depth of the water level in the well and the position of the discharge point.
3. Check for any leaks and correct as necessary.
 - If the motor fails to start, or the pump does not deliver water, refer to TROUBLESHOOTING on pages 12-13. Never operate the pump when not primed with water or if the inlet is blocked.
4. To stop the pump, switch off and remove the plug from the power socket.

CARE DURING USE

1. DO NOT allow the pump to run dry, otherwise the seal between the pump and motor may be damaged. If a leak occurs at this point, allowing water to pass from the pump to the motor, contact your Clarke dealer for overhaul.
2. In the event of a blockage, where debris has entered the suction chamber, it can be cleaned out as described under MAINTENANCE.
3. Should contaminants come into contact with the pump, flush through with cold water as soon as possible to prevent damage. DO NOT USE for pumping chemicals or other corrosive liquids (other than pool purification chemicals in their correct mix ratio).
4. If the pump is being used to drain a pool or pond, ensure there is adequate drainage and there is no risk of damage to property as a result of water being discharged. If a flexible hose must be laid across a roadway, protect it with wooden planking.

AFTER USE

If the pump will not be used over the winter period, or whenever there is danger of freezing, always drain the pump body. If the pump has been used with contaminated or salty water, it should be thoroughly flushed with clean water following use, both inside and out. It should then be drained and covered over, if not already installed in a clean, dry environment sheltered from the weather. In the event that dismantling and overhaul of the pump is necessary, contact your CLARKE service department.

CARE AND MAINTENANCE

Protect the pump and pipework from freezing as the formation of ice may cause serious damage.

The only maintenance required is a regular inspection to ensure that debris is not blocking the passage of water through the pump. Should sand, chemical or other contaminants come into contact with the pump, flush through with cold clean water as soon as possible.

Periodically unscrew the filter bowl and clean out the cartridge and interior of any debris collected.

If you suspect the pump is blocked by debris etc, disconnect it from the power supply and back-flush to clear any blockage using a garden hose.

- You will need to disconnect the outlet hose to do this.

Always keep the pump in a clean condition, checking regularly for loose fastenings or a damaged power cable etc.

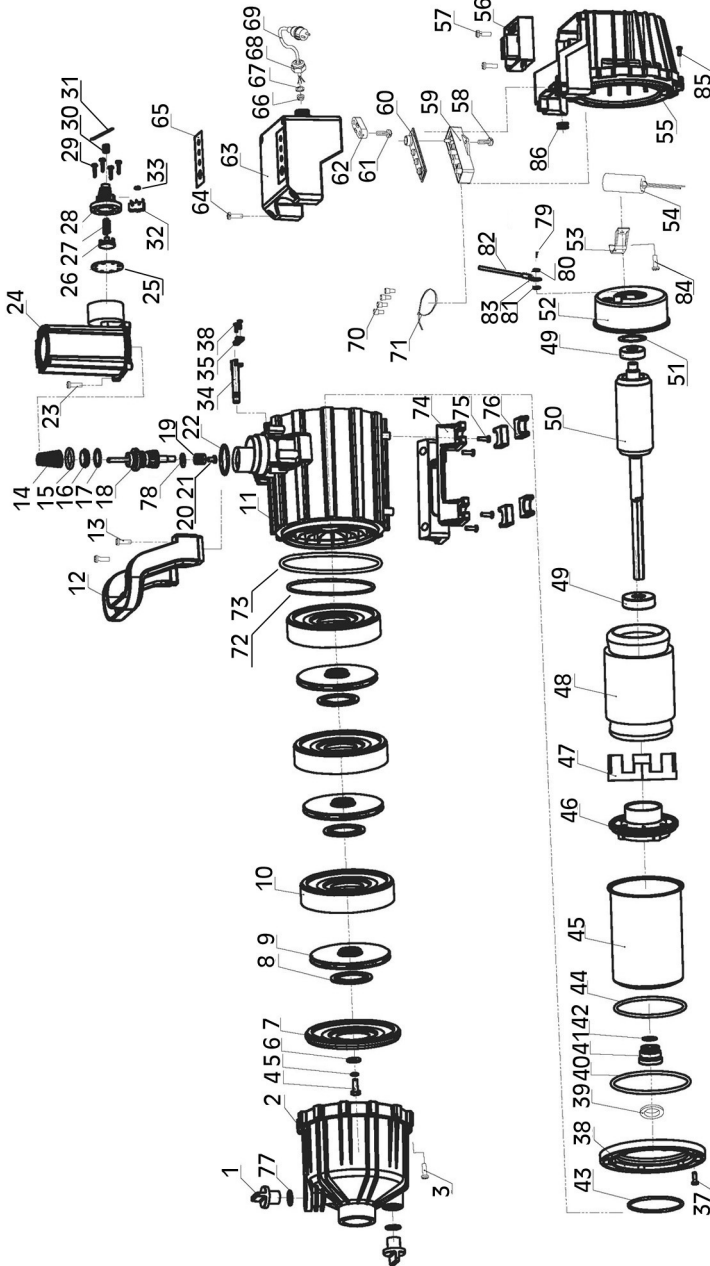
The pump should not be taken apart by the user if overhaul is required, but should be taken to your nearest CLARKE dealer for repair.

TROUBLESHOOTING

Problem	Cause	Solution
Pump does not run.	Thermal protection has been activated.	If the motor has overheated, wait for it to cool down before trying again.
	Faulty power connection	Insert plug securely.
	No mains supply.	Check fused power supply and replace fuse if necessary (check fuse rating). Check circuit breaker.
	Impeller seized/blocked	Disconnect pump from power supply. Investigate cause and clear blockage
Pump fails to prime	Air leaks through suction hose joints (damaged hose or damaged clamp.)	Repair connections/ replace hose as necessary.
	Blocked inlet hose	Check pipeline for blockage. Check any inlet valve fitted is fully open.
Pump runs but gives poor output	Congested material inside pump	Clean out & backflush pump.
	Suction or delivery line obstructed.	Remove obstruction and ensure there are no kinks in delivery line.
	Inlet pipe leakage.	Check inlet pipe and connector for leaks. Tighten as required.
	Air leaks through damaged seal.	Renew seal.
	Impeller damaged and making poor seal.	Return to your CLARKE dealer for repair.
	Impeller / mechanical seal is badly worn.	Return to your CLARKE dealer for repair.

	High friction losses in the suction line.	Avoid unnecessary curves, restrictions or valves
	Pump badly sited resulting in suction lift too high	Set pump as close as possible to the level of the water to be pumped
Sudden loss of flow.	Blockage of inlet pipe	Check pipeline for blockage.
Undue vibration or noise.	Excessive flow of water.	Decrease flow of water. by adjusting inlet/outlet valves in system.
	Resistance in inlet pipe caused by obstruction.	Check pipe and clean out as necessary
	Loose rotating component	Return to your CLARKE dealer for repairs.
	Installation of pump is unstable.	Stop pump and re-position.
	Air pocket in pump or pipeline.	Release plug in impeller housing to release air.
	Damaged impeller	Return to your CLARKE dealer for repair.

COMPONENT PARTS



COMPONENT PARTS

ID	DESCRIPTION
1	Valve
2	Pump head
3	Screw assembly
4	Hex bolt
5	Spring washer
6	Flat gasket
7	Guide plate cover
8	Plastic pad
9	Impeller
10	Guide plate
11	Main shell
12	Handle
13	S/t screw
14	Spring
15	O-ring
16	Sealing ring
17	O-ring
18	Valve element
19	Magnet
20	Gasket
21	S/t screw
22	O-ring
23	Bolt
24	Outlet connection
25	Gasket
26	Centre block
27	Spring
28	Micro switch frame
29	S/t screw
30	Set screw

ID	DESCRIPTION
31	Signal wire
32	Micro switch
33	Silica gel
34	Inductive probe
35	Cable clamp
36	S/t screw
37	S/t screw
38	Clamping ring
39	Thrower
40	O-ring
41	Mechanical seal
42	Gasket
43	O-ring
44	O-ring
45	Motor front cover
46	Lower bearing seat
47	Spacer
48	Stator
49	Bearing
50	Rotor
51	Gasket
52	Rear cover assembly
53	Capacitor retainer
54	Capacitor (16uF)
55	Rear cover
56	Circuit board holder
57	S/t screw
58	S/t screw
59	LED light circuit board
60	Sealing strip

ID	DESCRIPTION
61	S/t screw
62	Cable block
63	Terminal box cover
64	St screw
65	N/a
66	Switch seal
67	Washer
68	Holding down nut
69	Power cable
70	Terminal cap
71	Cable tie
72	O-ring
73	O-ring

ID	DESCRIPTION
74	Support legs
75	St screw
76	Rubber pad
77	O-ring
78	Gasket
79	52-1 screw
80	52-2 Gasket
81	52-3 Cable
82	52-4 Lug plate
83	52-5 Gasket
84	53-1 St screw
85	55-1 Screw
86	55-2 Cable grommet

ACCESSORIES

1" BSP Hose adaptor 90 deg bend (male)	Part No:7950200
1" BSP Plastic Foot Valve Filter FVF10	Part No:7950680
1" dia Reinforced Suction/Delivery Hose	Part No:7955010
1" dia Layflat Delivery Hose 5M	Part No:7955112
1" dia Layflat Delivery Hose 10M	Part No:7955113
1" BSP Male Coupling	Part No:7950210
1" BSP Filter assembly	Part No:7175105

SUITABLE ACCESSORIES FOR WATER PUMPS

Water pump couplings



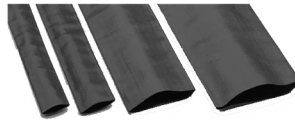
Plastic Foot valve filters



Reinforced suction/delivery hose



Hose clips



Layflat delivery hose



In-line water filter



Hose adaptors (90 deg bend)

DECLARATION OF CONFORMITY-UK

**UK
CA**

**Clarke®
INTERNATIONAL**

Hemmall Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

Product Description: 900W Multistage Booster Pump
Model number(s): CBP900
Serial / batch Number: N/A
Date of Issue: 27/09/2022
(Noise Conformity)
Notified Body: TUV SUD Certification and Testing
Shanghai Branch
3-13F No. 151 Heng Tong Road
Shanghai 200070
China

Technical Documentation Holder: A.R. Pond
Clarke International Ltd
Hemmall Street
Essex, CM16 4LG
UK

Conformity Assessment Procedure: to 2000/14/EC Annex VI
Manufacturer: Clarke International
Noise Related Value: 0.9kW
Measured Sound Power Level: 61dB
Guaranteed Sound Power Level: 63dB

CBP900 UKCA, Clarke (DOC: 09722)

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**Clarke®
INTERNATIONAL**

Hemmall 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 statutory requirement(s):
Electromagnetic Compatibility Regulations 2016
Electrical Equipment (Safety) Regulations 2016
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
Noise Emissions in the Environment by Equipment for use Outdoors Regulations 2001

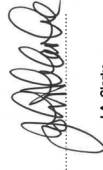
The following standards have been applied to the product(s):

EN 55014-1:2017+A11:2020, EN 55014-2:2015, EN 61000-3-2:2019, EN IEC 61000-3-2:2013+A1:2019,
EN 60335-2-41:2003+A2:2010, EN 60335-1:2012+A2:2019 EN 62233:2008, EN ISO 3744:2010,
EN 62321-1:2013, EN 62321-2:2014, EN 62321-3-1:2013, EN 62321-5:2013, EN 62321-6:2015,
EN 62321-7-1:2015, EN 62321-7-2:2017, EN 62321-8:2017

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

The UKCA mark was first applied in: 2022

Signed:



J.A. Clarke
Director

CBP900 UKCA, Clarke (DOC: 09722)

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DECLARATION OF CONFORMITY-CE



Clarke[®]
INTERNATIONAL
Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

DECLARATION OF CONFORMITY

This is an important document and should be retained.

Product Description: 900W Multistage Booster Pump
Model number(s): CBP900
Serial / batch Number: N/A
Date of issue: 27/09/2022
(Noise Conformity)
Notified Body: TUV SUD Certification and Testing
Shanghai Branch
3-13F No. 151 Heng Tong Road
Shanghai 200070
China

Technical Documentation Holder: A.R. Pond
Clarke International Ltd
Hennall Street
Essex CM16 4LG
UK

Conformity Assessment Procedure: to 2000/14/EC Annex VI
Manufacturer: Clarke International
Noise Related Value: 0.9KW
Measured Sound Power Level: 61dB
Guaranteed Sound Power Level: 60dB

CBP900 CE Clarke DOC 092722

Page 1 of 2



Clarke[®]
INTERNATIONAL
Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

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.*
2002/95/EC *Restriction of Hazardous substances.*
2000/14/EC *Noise Emissions Directive (amended by 2005/88/EC).*

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

EN 55014-1:2017+A11:2020, EN 55014-2:2015, EN 61000-3-2:2019, EN IEC 61000-3-2013+A1:2019,
EN 60335-2-41:2003+A2:2010, EN 60335-1:2012+A2:2019, EN 62233:2008, EN ISO 3744:2010,
EN 62321-1:2013, EN 62321-2:2014, EN 62321-3-1:2013, EN 62321-5:2013, EN 62321-6:2015,
EN 62321-7-1:2015, EN 62321-7-2:2017, EN 62321-8:2017.

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: 2022

Signed:

J.A. Clarke
Director

CBP900 CE Clarke DOC 092722

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A SELECTION FROM THE VAST RANGE OF

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QUALITY PRODUCTS



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Parts Enquiries

Parts@clarkeinternational.com

Servicing & Technical Enquiries

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