Clarke®

X-PRO

1”AIR IMPACT WRENCH

MODEL NO: CAT154

PART NO: 3120168

OPERATING & MAINTENANCE INSTRUCTIONS

UK CA | CE

ORIGINAL INSTRUCTIONS

GC02/22 Rev 1

INTRODUCTION

Thank you for purchasing this CLARKE Impact Wrench. Please read all of the safety and operating instructions carefully before using this product. 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.

SPECIFICATION

Dimensions (L x W x H)	630 x 230 x 200 mm
Weight(s)	17.2 kg
Drive size	1" square
Min. Hose Size (ID)	1/2" BSP (13mm)
Air Inlet Size	1/2"BSP female
Max Operating Pressure	113-143 psi (8-10 kg/cm^2)
Air Consumption	Max 55 cfm /average 10 cfm
Max Torque	3800 Nm (+/-10%)
Max No Load Speed	3500 rpm @ 90 psi
Speed Settings & RPM	
Forward/Reverse 1	2200 (+/-10%)
Forward/Reverse 2	3200 (+/-10%)
Forward/Reverse 3	3500 (+/-10%)
Sound Pressure Level (LpA dB)	91 dB(A)
Sound Power Level (LwA dB)	102 dB(A)
Vibration Level	14.9 m/s^2 (uncertainty factor K= 2.3m/s$^{2)}$

GENERAL SAFETY RULES

CAUTION: FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY.

WORK ENVIRONMENT

1. Keep the work area clean and tidy.
2. Dress appropriately - Do not wear loose clothing or jewellery. Tie long hair out of the way.
3. Keep children and visitors away - Do not let children handle the tool.
4. Do not operate the tool where there are flammable liquids or gases.

USE OF COMPRESSED AIR TOOLS

1. Stay alert and use common sense - do not operate the tool when you are tired or under the influence of alcohol, drugs or medication.
2. Always wear eye protectors when using the tool. Eye protectors must provide protection from flying particles from the front and the side. Ear protectors should also be worn.
3. Do not overreach - Keep proper footing and balance at all times.
4. Never use oxygen, CO^2, combustible gases or any type of bottled gas as a source of power for this tool.
5. Do not connect the air supply hose with your finger on the trigger.
6. Do not exceed the maximum pressure for the tool of 90 psi / 6.2 bar.
7. Keep the air supply hose away from heat, oil and sharp edges.
8. Do not fit the tool to any stand or clamping device that may damage it.
9. Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
10. Do not use the tool for any purpose than that described in this manual.
11. Do not carry out any alterations or modifications to the tool.
12. Always disconnect from the air supply when:
    - Performing any maintenance.
    - The tool is not in use.
    - The tool will be left unattended.

- Moving to another work area.
- Passing the tool to another person.

13. Never use the tool if it is defective or operating abnormally.
14. This tool should be serviced at regular intervals by qualified personnel.
15. Avoid damaging the tool by applying excessive force.
16. Always maintain the tool with care. Keep it clean for the best and safest performance.
17. Quick change couplings should not be located at the tool. They add weight and could fail due to vibration.
18. Do not force or misuse the tool. It will do a better and safer job at the rate for which it was designed.
19. Do not remove any labels. Damaged labels should be replaced.
20. This tool vibrates with use. Vibration may be harmful to your hands or arms. Stop using the tool if discomfort, a tingling feeling or pain occurs. Seek medical advice before resuming use.

IMPACT WRENCH SAFETY INSTRUCTIONS

1. Always use the impact wrench as described in these instructions.
2. Always ensure the wrench is not moving and disconnected from the air supply when changing sockets etc. Use only Impact Wrench sockets....DO NOT use standard sockets.
3. Always finish tightening wheel nuts or engine parts with a torque wrench or suitable spanner to the correct torque as recommended by the vehicle manufacturer.
4. Always avoid excessive use of the impact wrench. When tightening a nut or bolt, only allow the wrench to impact briefly to avoid over tightening.
5. Always ensure that the socket is correctly installed before switching on.
6. Only use sockets which are specified for impact wrench use.
7. Due to the possible presence of asbestos dust from vehicle brake linings, always wear suitable respiratory protection.
9. Always disconnect from the air supply when changing sockets or when the wrench is not required for immediate use to avoid accidental starting.
10. Always store this product in a dry, secure place out of reach of children or untrained users.
11. Always use both hands to control the impact wrench.
12. Always ensure the wrench has stopped before putting it down after use.

TRANSPORT & STORAGE

1. Never carry the wrench by the air hose.
2. Never carry the wrench with your finger on the trigger.
3. When not in use the wrench should be disconnected from the air supply and stored in a dry place out of reach of children.
4. Avoid storing the wrench where the temperature is below $0^{O}C$.

SAFETY SYMBOLS

The following safety symbols are to be found on the tool.

	Read this instruction booklet carefully before use.		Wear ear protection.
	Wear eye protection.		

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.

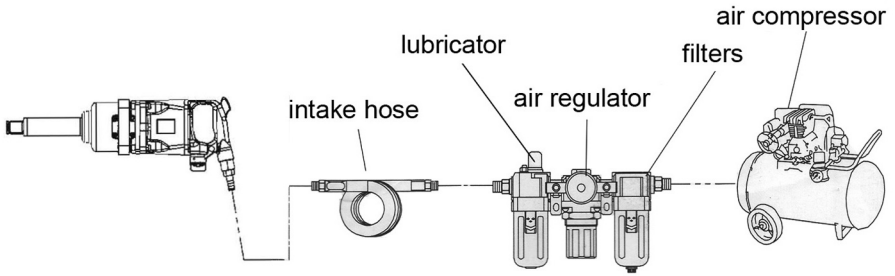
Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

COMPRESSED AIR REQUIREMENTS

WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF COMPRESSORS AND COMPRESSED AIR SUPPLY.

- Use only clean, dry, regulated compressed air as a power source.
- Air compressors used with the tool must comply with the appropriate European Community Safety Directives.
- A build-up of moisture or oil in the air compressor will accelerate wear and corrosion in the tool. Ensure any moisture is drained from the compressor daily and the inlet filter is kept clean.
- If an unusually long air hose is required, (over 8 metres), the line pressure or the hose inside diameter may need to be increased.
- The air hose must be rated at least 150% of the maximum operating pressure of the tool.



- A typical air line layout is shown above. If an automatic in-line filter/ regulator is used, it will keep the tool in good condition, but should be regularly checked and topped up with oil. clarke airline oil should be used, and the lubricator adjusted to approx 2 drops per minute.
- For optimum performance a minimum 13mm ID air hose is used.
- Never exceed the maximum operating pressure for the tool. It is recommended that air pressure to this tool does not exceed 90 psi at the tool when running. Higher pressures and dirty air will shorten the life of the tool due to faster wear and is a possible safety hazard.

BEFORE USE

WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF AIR COMPRESSORS AND COMPRESSED AIR SUPPLY.

NOTE: Ensure the compressor is turned off.

1. The side handle is supplied loose and must be fitted to the impact wrench using the bolts provided.

2. Remove the plastic blanking plug from the air inlet connection.
3. Pour 2-3 drops of Clarke airline oil into the oil filling port shown. This should be done regardless of whether or not a lubricated air supply is to be used.
4. Connect a suitable hose to the wrench.
5. Connect the other end of the hose to the compressor.

6. Turn on the air supply and check for air leaks. Rectify any found before proceeding.
   - PTFE tape may be useful for sealing threaded connections.
7. Your air tool is now ready for use.

You can fit a whip hose with a quick fit coupling if required, available from your Clarke dealer.

OPERATION

FITTING AN IMPACT SOCKET

WARNING: NEVER USE STANDARD SOCKETS. THESE MAY SHATTER WITH SERIOUS CONSEQUENCES. ONLY USE IMPACT SOCKETS DESIGNED FOR USE WITH IMPACT TOOLS.

CAUTION: ALWAYS TAKE CARE TO USE THE CORRECT SIZE SOCKET FOR BOLTS AND NUTS. AN INCORRECT SOCKET WILL CAUSE DAMAGE TO THE BOLT OR NUT.

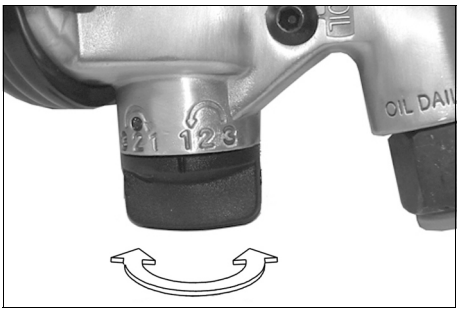
1. Select the impact socket you require, which must be in good condition and fit the tool exactly.
2. Push the socket onto the square drive shaft.

THE FORWARD/REVERSE/SPEED CONTROL

WARNING: WAIT UNTIL THE ANVIL HAS STOPPED ROTATING BEFORE OPERATING THE FORWARD/REVERSE CONTROL.

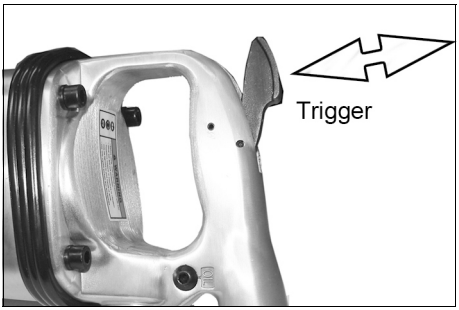
Forward/Reverse rotation is selected by twisting the combined Forward/ Reverse knob/speed regulator in the direction shown by the arrow(s) on the the wrench.

1. For normal tightening, the wrench should be operated in the forward (F) direction at position 1, 2 or 3.
2. For loosening, the wrench will be operated in the reverse (R) direction.



OPERATING THE IMPACT WRENCH

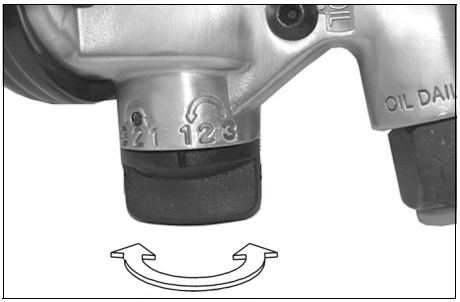
1. Locate the socket over the nut to be tightened or loosened.
2. Squeeze the trigger to start the wrench.
3. Release the trigger switch to stop the wrench.
    - The anvil will continue to rotate very briefly after the trigger has been released.



ADJUSTING THE SPEED

1. To adjust the speed, set the tool to one of the 3 settings available. (Setting 1- Low, 3 - High)
    - These numbers are only for reference and do not denote a specific amount of power.

For maximum power when removing stubborn nuts, turn the impact wrench to its highest setting.



IMPORTANT: Where the torque setting is critical, the final tightening of nuts or bolts, must be by hand using a properly calibrated torque wrench.

LOOSENING A WHEEL NUT

1. Remove any wheel trim, before selecting the appropriate socket and placing firmly on the square drive of the wrench.
2. With the FORWARD/NEUTRAL/REVERSE switch in the REVERSE running position, and holding the wrench firmly in BOTH HANDS, pull the trigger. The nut will be impacted repeatedly until it is loosened. **IMPORTANT!** Release the trigger as soon as the nut begins to loosen.
3. Jack up the vehicle according to the vehicles handbook so that the wheel is clear of the ground, then proceed to fully undo the wheel nuts.
4. Soak rusted nuts in penetrating oil, and break rust seal before twisting off with the wrench.

WARNING: ENSURE THAT THE CORRECT SOCKET IS BEING USED FOR THE NUTS ON YOUR PARTICULAR VEHICLE. AN INCORRECT SOCKET SIZE IS LIKELY TO DAMAGE THE HEADS OF THE BOLTS/NUTS.

TIGHTENING A NUT

1. Start the nut by hand, ensuring it is not cross threaded, then with the appropriate socket installed on the wrench, place it on the nut.
2. With the FORWARD/NEUTRAL/REVERSE selector in the clockwise (FORWARD) running position, and holding the wrench firmly in BOTH HANDS, pull the trigger.
3. Run each nut up in turn until it is 'nipped' up only - do not tighten. When all nuts are nipped up, tighten progressively by pulling the trigger fully and allowing the action to operate briefly to prevent overtightening.
4. ALWAYS finish tightening with a torque wrench. The weight of the vehicle will need to be placed on the wheel to prevent it from rotating while the nuts are tightened. Ensure the final torque applied to the nuts meets the vehicle manufacturer's recommendations.

DISCONNECTING THE AIR SUPPLY

1. Do not disconnect the air supply hose until the compressor has been shut down and the compressed air released.
2. Refer to the compressor instruction manual for the procedure to shut down and vent the compressed air.
3. Once the pressure has been released, disconnect the air supply hose from the wrench.

MAINTENANCE

WARNING: MAKE SURE THAT THE AIR TOOL IS DISCONNECTED FROM THE AIR SUPPLY BEFORE STARTING ANY CLEANING, OR MAINTENANCE PROCEDURES.

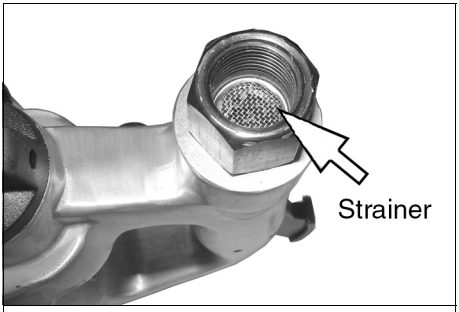
DAILY

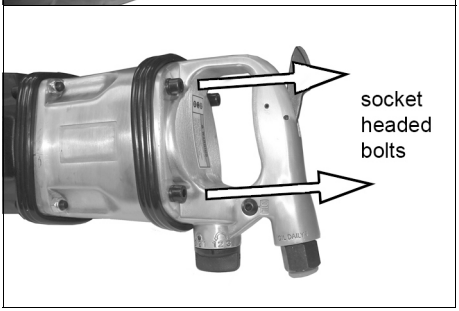
1. Before use, drain water from the airline filter and compressor.
2. If no line lubricator is used, ensure that oil is applied to the tool on a daily basis through the air inlet connection.
3. For lubricating the air motor, an air line lubricator should be used, (containing Clarke Air Line Oil). If this is not possible, run a few drops of oil through the tool before use. It may be entered into the tool air inlet, (ensuring the strainer is clear), or into the hose at the nearest connection to the air supply. Then operate the tool.

4. Pour a few drops of Clarke air-line oil, into the tool air inlet. This should be carried out regardless of whether or not an in-line oiler is used. If an in-line oiler is not used, this procedure should be repeated after every two to three hours of use, or at the start of the working day.
5. Keep the body of the tool clean and free from debris.

CLEANING

1. Grit or gum deposits in the tool may reduce efficiency and cause it to run erratically. This condition can be corrected by cleaning the air strainer and flushing out the tool with gum solvent oil.
2. Failing this, the tool should be disassembled, thoroughly cleaned, dried and reassembled.
3. The tool may be dismantled by unfastening the bolts and removing the rear cover prior to replacing any worn or damaged parts. You may prefer to take the tool to your Clarke dealer if internal maintenance is required.
4. While is a dismantled state, it may be desirable to grease the hammer mechanism and applying a small amount of good quality bearing grease.
    - This may be better left to your Clarke dealer.





PERFORMANCE

Please note that factors other than the tool may effect its operation and efficiency such as reduced compressor output, excessive drain on the airline, moisture or restrictions in the air-line, or the use of connectors of improper size or poor condition which will reduce air supply.

**Clarke Air Line Oil (part no. 3050825) is available from your Clarke dealer.

- Your air tool has been designed to give long & trouble free service. If, however, having followed the instructions in this booklet carefully, you encounter problems, take the unit to your local Clarke dealer.
- Any major servicing and repairs should be carried out by your local Clarke dealer or a qualified service technician.

TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Tool runs at normal speed but slows down under any load.	1. Air motor parts worn. 2. Worn or sticking mechanism due to lack of lubricant.	1. Return to Clarke dealer for repair. 2. Drip air tool lubricating oil into air inlet. Allow oil to soak moving parts before using.
Tool runs slowly. Air flows weakly from exhaust.	1. Air motor parts jammed with gum/ dirt. 2. Air-line regulator in closed position. 3. General airflow blocked by dirt.	1. Examine inlet air filter for blockage. Drip a few drops of air tool lubricating oil into air inlet. 2. Adjust in-line regulator to open position. 3. Operate tool in short bursts.
Tool will not run. Air flows freely from exhaust.	1. Air motor vanes stuck due to buildup of foreign material.	1. Disconnect air supply and rotate tool assembly manually. 2. Try operating tool in short bursts. 3. Tap motor housing gently with a rubber mallet. 4. Drip a few drops of air tool lubricating oil into air inlet to soak moving parts.
Tool will not shut off.	1. Throttle O-rings damaged or ill-fitting in seat.	1. Return to Clarke dealer for repair.

STORAGE

If the tool is to be stored, or is idle for longer than 24 hours, run a few drops of Clarke air line oil into the air inlet, and run the tool for 5 seconds in order to lubricate the internal parts. Store the tool safely in its box in a dry, secure environment.

When storing, ensure the blanking plug is replaced on the airline connector once the airline has been disconnected.

**Clarke Airline Oil is available from your Clarke dealer: Part no 3050825.

PARTS LIST

No	Description
1	Socket Head Bolt
2	Gasket
3	Nut
4	Hammer Case
5	D-Handle
6	Screw
7	Gasket
8	Gasket
9	O-ring
10	Anvil Bush
11	Circlip
12	O-ring
13	Anvil
14	Hammer Bushing
15	Hammer
16	Cam
17	Hammer Cage
18	Bearing
19	Housing
20	Bearing
21	Cylinder Cover
22	Vane
23	Rotor
24	Pin

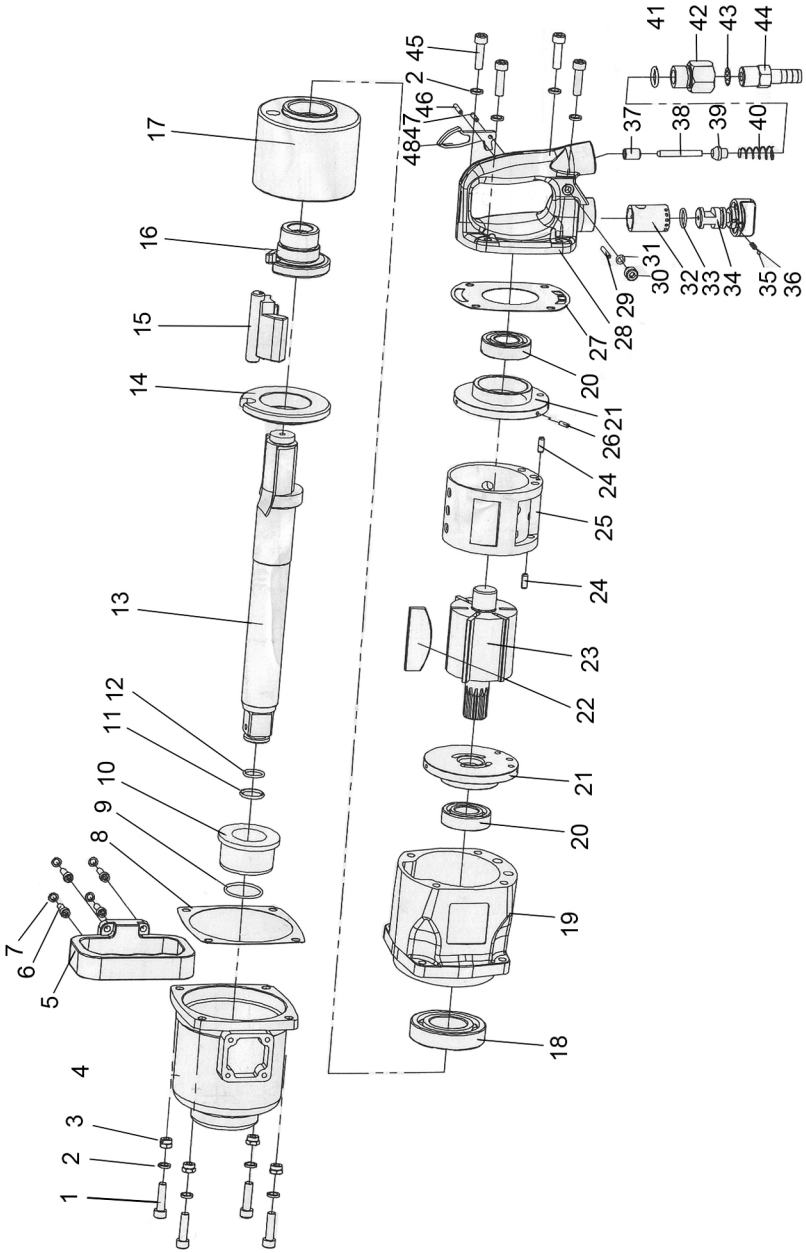
No	Description
25	Cylinder
26	Pin
27	Gasket
28	Handle
29	Pin
30	Socket Screw
31	O-Ring
32	Valve Bushing
33	O-Ring
34	Direction Bar
35	Steel Ball
36	Spring
37	Throttle Bushing
38	Throttle Valve Pin
39	Throttle Valve
40	Inlet Spring
41	O-Ring
42	Air Inlet
43	Air Inlet Screen
44	Hose Connector
45	Hex Screw
46	Pin
47	Pin
48	Trigger

ACCESSORIES

A wide range of accessories is available including filter/regulators, lubricators, high-pressure hoses (5 to 50 metres) etc.

Contact your Clarke dealer for further information or the Clarke International Service Department.

PARTS DIAGRAM



UK CA

Clarke® 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 statuary requirement(s):

Supply of Machinery (Safety) Regulations 2008

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

BS EN ISO 11148-6:2012

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

Product Description:	1" Impact Wrench
Model number(s):	CAT154
Serial / batch Number:	N/A
Date of Issue:	09/02/2022

Signed:

J.A. Clarke

Director

CE

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):

2006/42/EC Machinery Directive.

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

EN ISO 11148-6:2012.

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:	1" Impact Wrench
Model number(s):	CAT154
Serial / batch Number:	N/A
Date of Issue:	09/02/2022

Signed:

J.A. Clarke

Director

A SELECTION FROM THE VAST RANGE OF

Clarke®

QUALITY PRODUCTS

AIR COMPRESSORS
From DIY to industrial, Plus air tools, spray guns and accessories.

GENERATORS
Prime duty or emergency standby for business, home and leisure.

POWER WASHERS
Hot and cold, electric and engine driven - we have what you need

WELDERS
Mig, Arc, Tig and Spot.
From DIY to auto/industrial.

METALWORKING
Drills, grinders and saws for DIY and professional use.

WOODWORKING
Saws, sanders, lathes, mortisers and dust extraction.

HYDRAULICS
Cranes, body repair kits, transmission jacks for all types of workshop use.

WATER PUMPS
Submersible, electric and engine driven for DIY, agriculture and industry.

POWER TOOLS
Angle grinders, cordless drill sets, saws and sanders.

STARTERS/CHARGERS
All sizes for car and commercial use.

PARTS & SERVICE:
0208 988 7400

Parts Enquiries
Parts@clarkeinternational.com

Servicing & Technical Enquiries
Service@clarkeinternational.com

SALES: UK 01992 565333 or Export 00 44 (0)1992 565335

Clarke® INTERNATIONAL Hemnall Street, Epping, Essex CM16 4LG
www.clarkeinternational.com