

Clarke®



HVLP Electric Spray Station

Model No: APK900

PART NO: 2310060

OPERATING & MAINTENANCE INSTRUCTIONS



INTRODUCTION

Thank you for purchasing this CLARKE HVLP (highvelocity/low pressure) Electric Spray Station.

Before attempting to use this product, please read this manual throughout and follow the instructions carefully. Thoroughly familiarise yourself with this product & its operation in order to ensure the safety of yourself and others around you. In so doing, you can look forward to the product giving you long and satisfactory service.

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 it's intended purpose.

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.

TECHNICAL SPECIFICATION

APK900	
Part Number	2310060
Weight	3.2 kg
Dimensions (L x W x H)	340 x 170 x 200 mm
Container capacity	700 ml
Hose Length	1.9 m
Maximum nozzle flow rate	900 ml/min
Rated power input	900 W
Voltage	220 - 240 V / 50 Hz
Insulation Class	Class II
Sound Pressure level	83 dB LpA
Sound Power level	96 dB LwA

Please note that details and specifications contained herein, are correct at the time of going to print. However, CLARKE International reserve the right to change specifications at any time without prior notice.

Clarke

CONTENTS

INTRODUCTION	2
GUARANTEE	2
SPECIFICATION	2
GENERAL SAFETY PRECAUTIONS	4
ELECTRICAL CONNECTIONS	7
OVERVIEW	8
OPERATING INSTRUCTIONS	9
GENERAL PREPARATION	9
PAINT PREPARATION	9
START-UP	10
ADJUSTMENTS	11
SPRAYING TECHNIQUE	12
CLEANING & MAINTENANCE	14
CLEANING	14
MAINTENANCE	15
FAULT FINDING	16
COMPONENT PARTS	17
DECLARATION OF CONFORMITY	19

GENERAL SAFETY PRECAUTIONS

WORK AREA

1. **Keep the work area clean and well lit.** Cluttered and dark areas invite accidents.
2. **Do not operate power operated tools in explosive atmospheres such as in the presence of flammable liquids, gasses or dust.** Power operated tools can create sparks which may ignite dust or fumes.
3. **Keep children and bystanders away while working.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

1. **Power operated tools must match the power outlet. Never modify the plug in any way. Do not use adaptor plugs with earthed (grounded) power tools.** Correct plugs and outlets will reduce the risk of electric shock.
2. **Do not expose tools to rain or wet conditions.** Any water entering power operated tools will increase the risk of electric shock.
3. **Do not abuse the electrical cable. Never use the cable for pulling or unplugging the machine. Keep the cable away from sources of heat, oil, sharp edges or moving parts.** Damaged or tangled cables increase the risk of electric shock.
4. **When operating a power operated tool outdoors, use an extension cable suitable for outdoor use.** Using the correct cable reduces the risk of electric shock.

PERSONAL SAFETY

1. **Stay alert, watch what you are doing and use common sense when you are operating a power operated tool.** Do not operate when you are tired, ill or under the influence of alcohol, drugs or medication.
2. **Wear personal protective equipment including eye protection.** Safety equipment such as a face mask, non-skid shoes or hearing protection used for appropriate conditions will reduce personal injuries. Use a face or dust mask if necessary. Wear ear protectors/defenders as the noise level of this machine can exceed 85dB (A).
3. **Do not over-reach.** Keep your proper footing and balance at all times. This enables better control in unexpected situations.
4. **Avoid accidental starting of the machine.** Ensure the switch is in the off position and the locking button disengaged before plugging the machine in to the power supply. Carrying power operated tools around with your finger on the trigger or plugging in power tools that are switched on invites accidents.

5. **Dress properly.** Wear protective hair covering to contain long hair. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
6. Concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.

POWER OPERATED TOOL USE AND CARE

1. **Do not use the power operated tool if the switch does not turn it on and off.** Any power operated tool that cannot be controlled with the switch is dangerous and must be repaired.
2. **Always disconnect from the power supply before making any adjustments or storing the machine.** These measures will reduce the risk of the machine starting accidentally.
3. **Store power operated tools out of reach of children and do not allow persons unfamiliar with these instructions to operate this product.** Power operated tools are potentially dangerous in the hands of untrained users.
4. **Maintain in top condition.** Keep tools/ machines clean for the best and safest performance. Check for any condition that may affect the tool's operation. Many accidents are caused by poorly maintained power tools.
5. **Use recommended accessories.** The use of improper accessories could be hazardous.
6. **Machine cleanliness.** Do not allow the ventilation slots in the machine to become blocked with dust.
7. **Check for damage before using the machine.** Any damaged part should be inspected to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machine's operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use. Consult your local dealer.

SERVICING

1. **When necessary, have your power operated tools serviced or repaired by a qualified person using identical replacement parts.** This will ensure that the safety of the tool is maintained.

ADDITIONAL SAFETY PRECAUTIONS FOR PAINT SPRAYING

1. Never spray in the direction of persons or animals. Never allow the paint to come into contact with the skin. In the case of injury, seek expert medical advice immediately.
2. Always wear a suitable approved breathing mask when spraying, to protect against inhalation of paint spray or fumes. An air feed mask may be required when spraying some types of paint. If in doubt, check with the paint manufacturer.
3. Always make sure there is adequate ventilation. Do not spray in confined or enclosed areas.
4. Always disconnect the spray gun from the electrical supply when it is not in use and before cleaning or dismantling.
5. Always adhere to the paint manufacturers instructions when thinning paint.
6. Always disconnect from the power supply when filling the paint container.
7. Always thoroughly clean the spray gun after use. See 'Maintenance'.
8. Never smoke while spraying or preparing paints, or spray near a naked flame or heat source. Many paints are flammable.

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. Do not connect it to any other power source.

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.



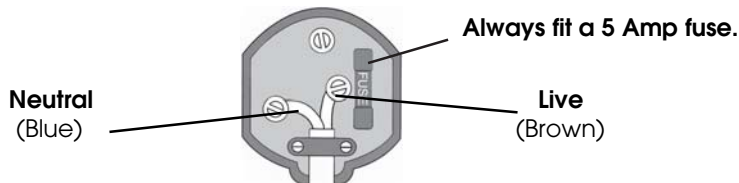
WARNING! The wires in the power cable of this product are coloured in accordance with the following code:

Blue = Neutral Brown = Live

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

- **The wire which is coloured Blue must be connected to the terminal which is marked N or coloured Black.**
- **The wire which is coloured Brown must be connected to the terminal which is marked L or coloured Red.**

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 product is connected to the mains supply via a Residual Current Device (RCD).

If in doubt, consult a qualified electrician. DO NOT attempt repairs yourself.



This symbol indicates that this is a Class II product and does not require an earth connection.

OVERVIEW

The High Volume/Low Pressure (HVLP) spray gun reduces the spray mist associated with compressed air spraying and therefore both reduces paint loss and masking requirements. The gun may be used with various spray mediums, including varnishes, wood preservatives, masonry paints, enamel paints, and oil and water based paints.



APK900

1	Carrying Handle	7	Air Filter Cover
2	Spray Nozzle Assembly	8	Connecting Hose
3	Trigger	9	Viscosity Cup
4	Trigger Stop Regulator	10	Base Unit
5	Paint Container	11	ON/OFF Switch
6	Spray Gun Holder	12	Spare Spray Nozzle (2.6 mm)

Clarke

OPERATION

GENERAL PREPARATION

Do not use textured wall paints or coatings as they are likely to block the nozzle. To obtain the best results, it is important that you prepare the surface to be sprayed and thin the paint to the correct viscosity before you operate your spray gun. Always ensure that the surfaces to be sprayed are free from dust, dirt and grease. Make sure that you have masked the areas that should not be sprayed, using a good quality masking tape.

Paint to be sprayed should be thoroughly mixed and free from lumps or other particles. Many substances can be sprayed with this spray gun, but always check the manufacturers recommendations before purchasing your paint.

PAINT PREPARATION



ALWAYS REMEMBER TO DISCONNECT FROM THE MAINS SUPPLY BEFORE FILLING THE PAINT CONTAINER WITH SPRAYABLE MATERIALS.

Most paints are supplied ready for brush application and will need to be thinned before they are suitable to be sprayed. Follow the manufacturers advice on thinning the paint when used with a spray gun. Using the viscosity cup will help you to determine the correct viscosity of paint to be used.

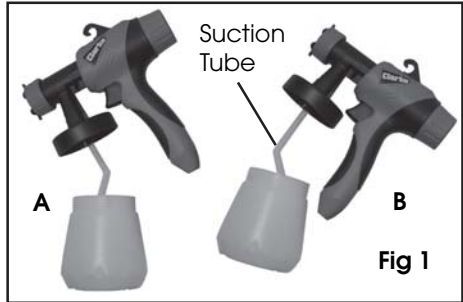
To do this, fill the cup to the brim with the paint and measure the amount of time it takes for the cup to empty back into the can. The table below shows recommended times for different materials.

Material	Runout Time
Emulsion paints	18 - 22 seconds
Thinner-soluble primers	25 - 40 seconds
Thinner-soluble varnishes	15 - 40 seconds
Water-soluble primers	25 - 40 seconds
Water-soluble varnishes	20 - 35 seconds
Automotive spray paint	20 - 35 seconds
Wood preservatives	No thinning required
Wood stains	No thinning required

If the paint takes longer than the recommended time to empty, further thinning is required. Mix in a small quantity of the appropriate thinner and repeat the viscosity test until the correct thickness is achieved. Some sprayable materials contain particles and lumps which should be strained before filling the paint container.

START-UP

1. Unscrew the container from the spray gun and align the suction tube to suit the angle of spraying.
 - When spraying horizontal surfaces or pointing the gun downwards, turn the suction tube forward (A). If spraying objects at high level, turn the suction tube back towards you (B) as shown in Fig 1.



2. Fill the container with prepared paint and screw the container onto the spray gun. Place the spray gun in the holder of the machine base until ready to start spraying.
 - Always place the spray gun base assembly on a clean surface to avoid sucking in dust etc through the air filter.
3. Connect the air hose to both the base and the spray gun as shown in Fig 2.
4. Connect the spray gun to the mains supply.

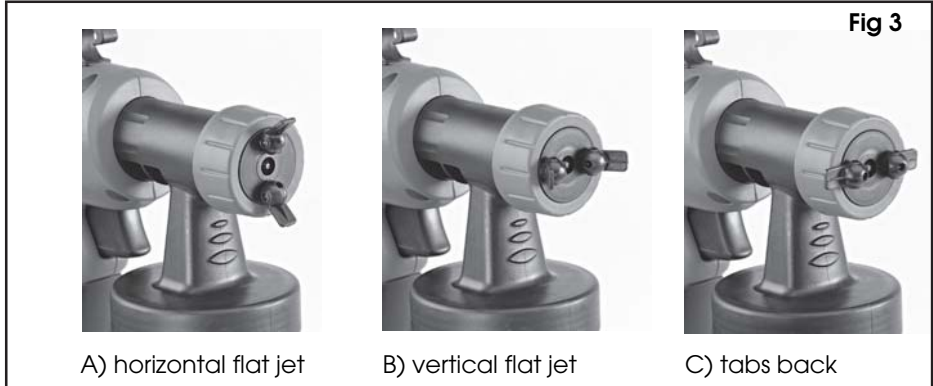


ADJUSTMENTS

SPRAY PATTERN

Adjust the spray gun by rotating the nozzle and setting the tabs on the air cap as shown. Three different spray settings can be chosen, depending on the application and target object.

- A) Flat, narrow jet (for horizontal surfaces)
- B) Tall, narrow jet (for vertical surfaces)
- C) Circular jet (for corners, edges and hard to reach areas)



- Note that both tabs must be adjusted as a pair.

SPRAY VOLUME

1. In order to achieve consistent and repeatable spray output, adjust the spray volume by turning the trigger stop regulator on the rear of the spray gun as shown in Fig 4.

- Turn as shown; + to increase the volume of material and - to reduce.
- Adjustment of the regulator will also affect the pattern. A poor spray pattern will concentrate the paint in the centre of the spray and give a blotchy finish. A good spray pattern will give even distribution of paint across the pattern.



2. Aim the spray gun at a piece of scrap material and operate the trigger until paint is spraying. Adjust the regulator until the required volume of paint is spraying.

SPRAYING TECHNIQUE

The quality of the finished work depends on the smoothness and cleanliness of the surface to be sprayed. Therefore the surface should be carefully prepared and kept free from dust. Carefully mask all areas not to be painted and cover all surrounding areas.

It is advisable to test the spray gun on cardboard or a similar surface to find the correct setting. Start spraying outside the actual target area and pass smoothly across the target without stoppages.

Control the speed of movement of the spray gun evenly. A fast speed of movement over the surface will give a thin coat and a slow speed will give a heavy coat.

Apply one coat at a time. If a further coat is required, make sure you observe the manufacturer's drying time recommendations before applying a second coat. When spraying small areas, keep the regulator on a low setting. This will avoid using too much paint and prevent overspray.

Where possible, avoid stopping and starting when spraying an object. This can lead to too much, or not enough paint being applied to local areas. Do not tilt the spray gun at more than 45°.

Hold the spray gun at an even distance from the target as shown in Fig 5 and avoid an uneven movement.

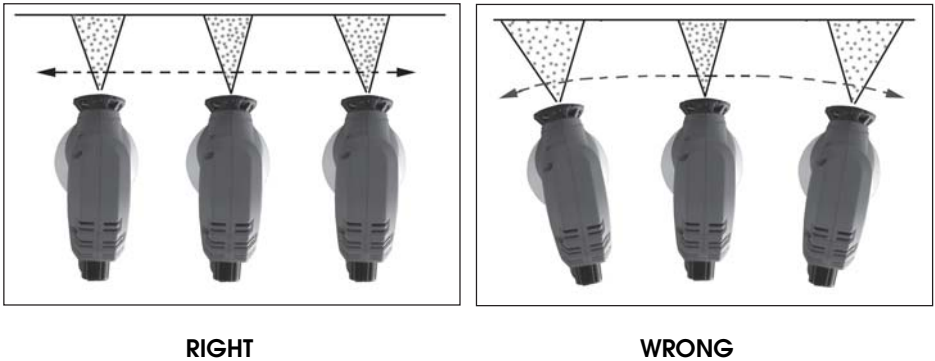


Fig. 5

To obtain the best results, keep your spray gun level and parallel to the surface at all times. Keep the nozzle 25 - 30 cm from the surface and spray evenly from side to side or up and down. Do not spray at an angle as this will lead to paint runs on the surface. Use smooth and even strokes. When spraying large areas, using a criss-cross pattern as shown in Fig 6.

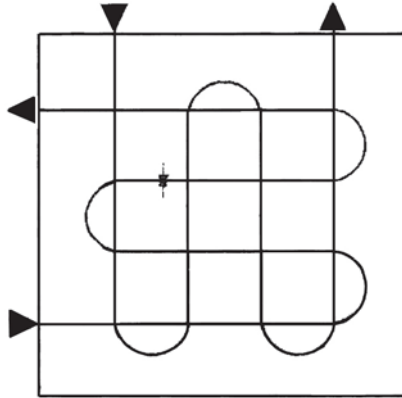


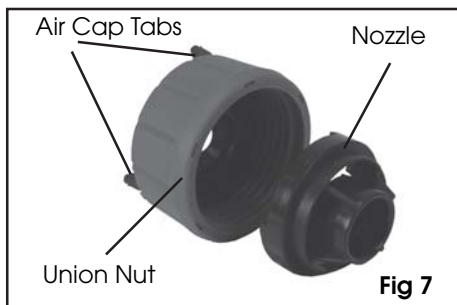
Fig 6

CLEANING AND MAINTENANCE

CLEANING

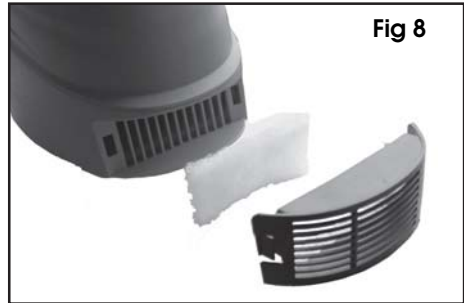
Continuous satisfactory operation depends upon proper care and regular cleaning. **It is essential that the spray gun is cleaned thoroughly after every use. Failure to clean it will almost certainly result in blockages and it may not operate correctly when you next come to use it.** The following action must be taken after every use:

1. Allow the remaining paint to flow back into the paint container. Empty any remaining material from the container.
2. Clean the paint container and suction tube thoroughly with a brush.
3. Pour some thinners or water (as applicable) into the container and screw back on. Turn the spray gun back on and spray into a container or cloth. Repeat until only clean thinners is coming out of the nozzle.
4. Turn the spray gun off and empty the paint container completely of any remaining thinners. Always ensure the container sealing disc is free of paint residue and check for any damage.
5. Clean the outside of the spray gun and container with a cloth soaked in thinners or water (as applicable).
6. Unscrew the union nut and remove the air cap and nozzle.
Clean the air cap and nozzle with a brush and thinners or water.
 - Never clean the nozzle or air holes with sharp metal objects.



MAINTENANCE

1. Release the cover from the base unit by pinching the side clips together and lifting the cover off.
2. Inspect the condition of the air filter.
3. The filter can be washed in soapy water or it should be replaced if badly fouled.
4. Replace the filter and the cover.



IMPORTANT: NEVER OPERATE WITHOUT THE AIR FILTER;- DIRT COULD BE SUCKED IN AND INTERFERE WITH THE FUNCTION OF THE SPRAY GUN.

Check the power cable to ensure it is sound and free from cracks, bare wires etc.

The nozzle parts may wear with long term use, depending on the abrasiveness of the materials being sprayed. More abrasive materials, such as emulsions, will cause faster wear.

A worn nozzle may eventually develop a larger hole and scratches on the surface, which will cause a poor spray pattern. Replacements are available from your dealer or the Clarke International Parts Department.

STORAGE

For long term storage, always store in a well ventilated area and keep the product dry and dust free.

ENVIRONMENTAL PROTECTION



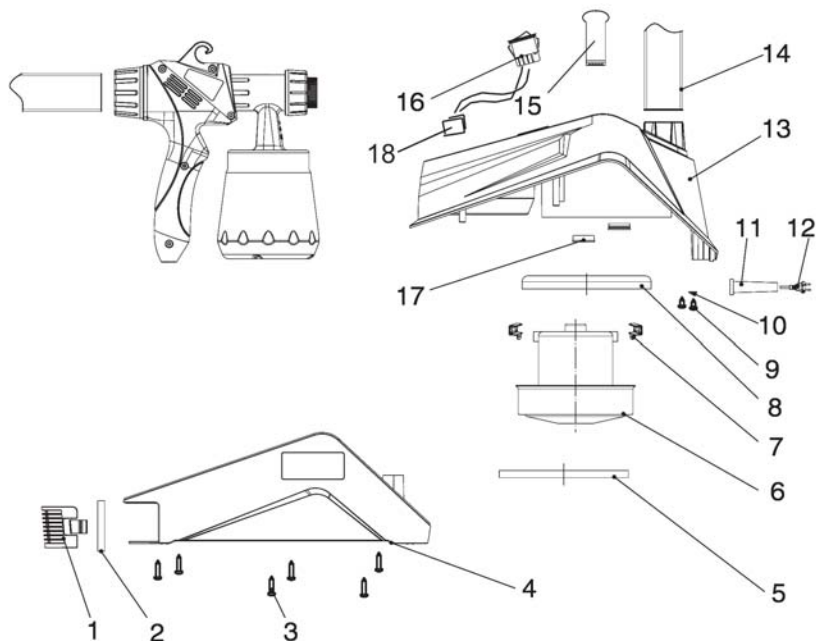
If disposing of this product or any damaged components, do not dispose of with general waste. This product contains valuable raw materials and must be disposed of according to the laws governing

Waste Electrical and Electronic equipment and should be taken to your local civic amenity site for recycling.

FAULT FINDING

PROBLEM	CAUSE	SOLUTION
No spray or sound.	No electrical power.	Check power supply.
Motor hums but does not spray or spray is irregular.	Pick up pipe not in the right position.	Adjust pick-up pipe.
	Blocked pick-up pipe.	Clean with thinners.
	Blocked nozzle.	Clean nozzle.
	Blocked air filter.	Wash out, dry and re-fit.
	Paint volume needs adjustment.	Adjust regulator.
Atomisation is poor	Paint volume adjustment is incorrect.	Adjust regulator.
	Paint too thick.	Check viscosity of paint.
Over painting.	Gun not clean resulting in valve sticking.	Dismantle spray gun and clean with thinner.
	Too much paint.	Adjust the volume regulator to reduce spraying. Apply two thin coats of paint.
	Viscosity too low.	Check viscosity using the viscosity cup.
Motor louder than normal.	Gun not clean.	Dismantle spray gun and clean with thinner.
Operating sound not normal.	Poor output adjustment.	Adjust regulator.
	Not enough paint in container resulting in air being sucked in.	Refill container with paint.
	Paint not properly diluted or not passing pickup pipe completely.	Check pick-up pipe and paint viscosity.
Orange peel or excessive fogging.	Incorrect solvent used.	Use different solvent.
	Spray gun too far from surface.	Hold spray gun closer to the target.
	Paint too thick.	Thin the paint. Test viscosity using the viscosity cup.

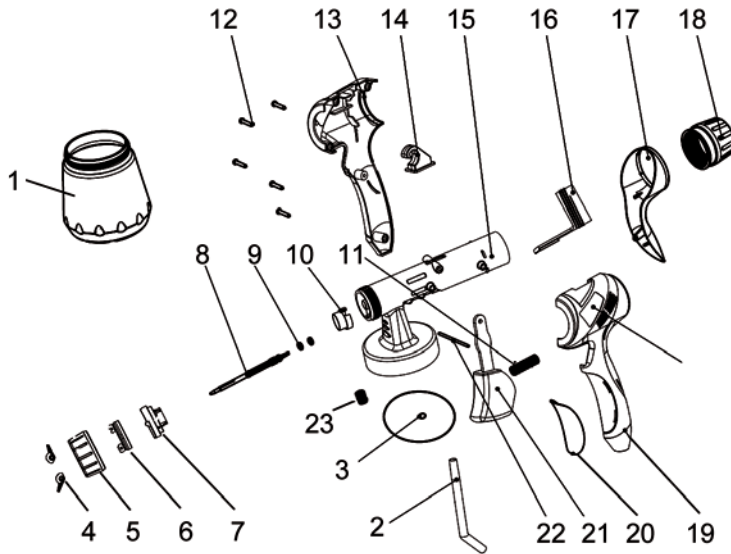
COMPONENT PARTS - BASE ASSEMBLY



No	Parts List	Part No
1	Air Filter Cover	JJ910FC01
2	Air Filter	JJ910FC02
3	Self Tapping Screw	JJ910FC03
4	Base Housing	JJ910FC04
5	Heat Insulation Ring	JJ910FC05
6	Motor	JJ910FC06
7	Connector	JJ910FC07
8	Motor Sealing Ring	JJ910FC08
9	Self Tapping Screw 2.9x9.5	JJ910FC09

No	Parts List	Part No
10	Cable Clip	JJ910FC10
11	Cable Sleeve	JJ910FC11
12	Power Cable	JJ910FC12
13	Upper Housing	JJ910FC13
14	Connecting Hose	JJ910FC14
15	Handle	JJ910FC15
16	ON/OFF Switch	JJ910FC16
17	Rubber Sealing Ring	JJ910FC17
18	Capacitor	JJ910FC18

COMPONENTS PARTS - SPRAY GUN



No	Parts List	Part No
1	Paint Container	JJ910FC19
2	Suction Tube	JJ910FC20
3	Container Sealing Disc	JJ910FC21
4	Adjusting Tab	JJ910FC22
5	Union Nut	JJ910FC23
6	Adjustable Air Cap	JJ910FC24
7	Fixed Nozzle (2.6 mm)	JJ910FC25
8	Valve	JJ910FC26
9	O-Ring	JJ910FC27
10	Limit Ring	JJ910FC28
11	Valve Stem Spring	JJ910FC29
12	Self tapping Screw 4 x16	JJ910FC30

No	Parts List	Part No
13	Housing (R/H)	JJ910FC31
14	Hook	JJ910FC32
15	Gun Body	JJ910FC33
16	Trigger Stopper	JJ910FC34
17	Rear Cover	JJ910FC35
18	Regulator Knob	JJ910FC36
19	Housing (L/H)	JJ910FC37
20	Front Cover Pad	JJ910FC38
21	Trigger	JJ910FC39
22	Rear Bolt	JJ910FC40
23	Air Valve	JJ910FC41

DECLARATION OF CONFORMITY



Clarke[®]
INTERNATIONAL

Hemnoll 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.*
- 2006/42/EC *Machinery Directive.*
- 2006/95/EC *Low Voltage Equipment Directive.*
- 2002/95/EC *Restriction of Hazardous substances.*

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

- EN 50144-1:1998+A1+A2, EN 50144-2-7:2000, EN 55014-1:2006, EN 55014-2:1997+A1,
- EN 61000-3-2:2006, EN 61000-3-3:1995+A1+A2

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: 2010

Product Description: HVLP Floor based spray gun
Model number(s): APK900
Serial / batch Number: N/A
Date of Issue: 17/03/2011

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

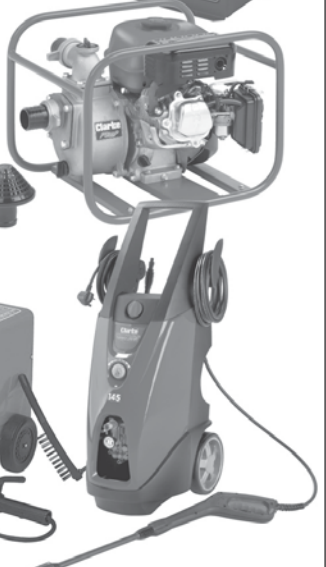
Submersible, electric and engine driven for DIY, agriculture and industry.

POWER TOOLS

Angle grinders, cordless drill sets, saws and sanders.

STARTERS/CHARGERS

All sizes for car and commercial use.



PARTS & SERVICE: 020 8988 7400

E-mail: Parts@clarkeinternational.com or 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