

Metallisation

Thermal spray equipment and consumables



Equipment Specification

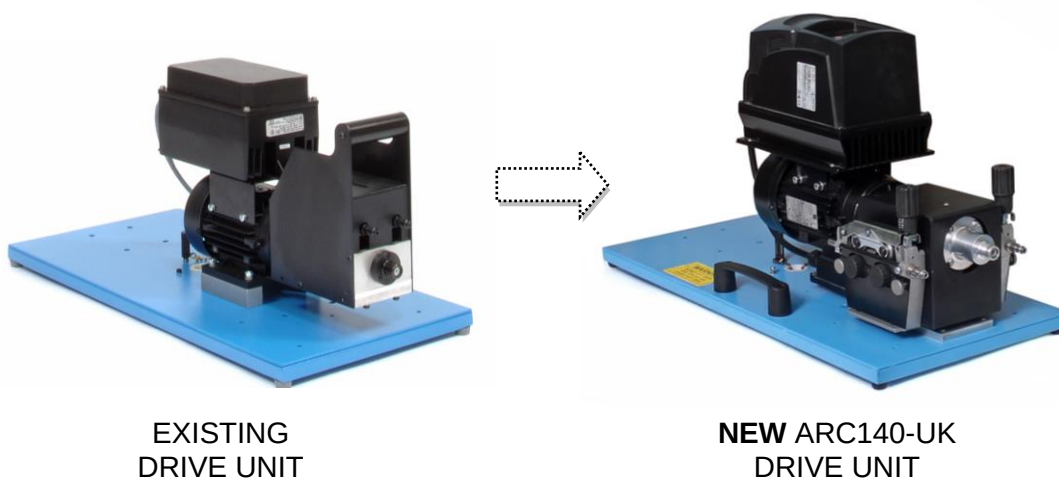
ARC140-UK Upgrade Kit

INTRODUCTION

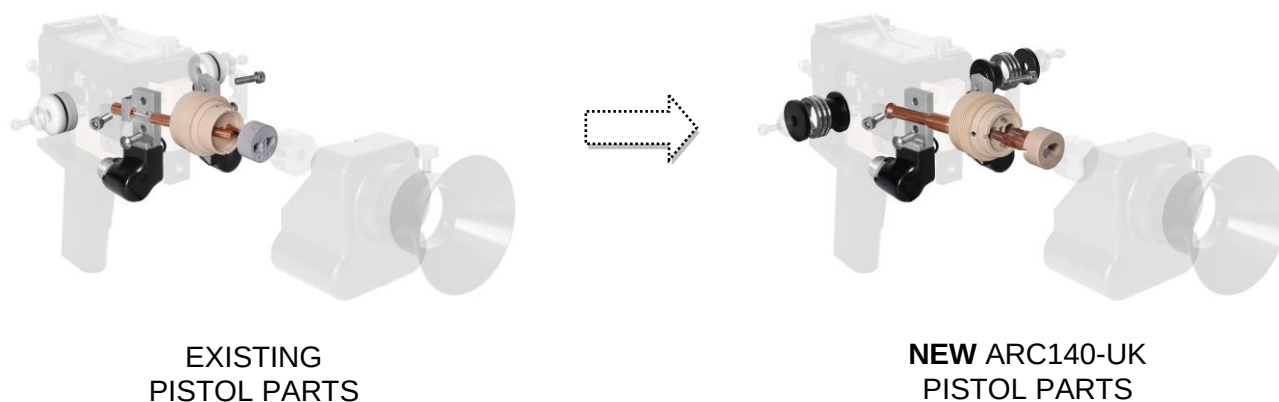
The ARC140 Pistol & Drive Unit Upgrade Kit is available in two forms, each specific for the wire size being sprayed:

Part No.	Description
ARC140-UK-1.6/2.0	ARC140 Pistol & Drive Unit Upgrade Kit for 1.6mm & 2.0mm wires
ARC140-UK-2.3/2.5	ARC140 Pistol & Drive Unit Upgrade Kit for 2.3mm & 2.5mm wires

Upgrading your ARC140 System with the upgrade kit introduces many benefits to several aspects of the ARC140 System:

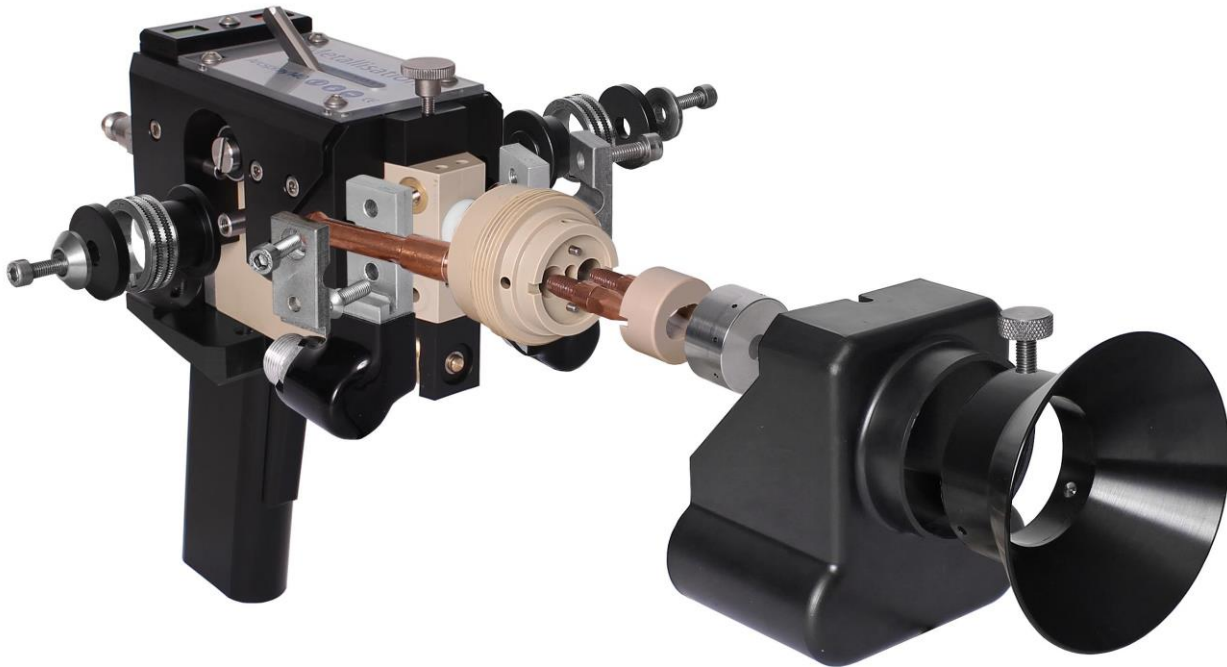


The new heavy duty drive unit with profiled roller design and independent wire tensioning gives the most reliable wire feed in demanding applications up to 20m long. The drive unit in conjunction with the new front end modifications result in a robust thermal spray solution for the harshest of environments.



The changes to the pistol parts not only produces a finer coating but the new contact tip and roller configurations mean quicker and easier maintenance of the pistol consumables. The tips are made of a hard wearing, copper alloy and in conjunction with improved cooling, the tip life is greater than the traditional contact tubes used on the standard ARC140 pistol.

PISTOL UPGRADE



TECHNICAL OVERVIEW

- ✦ Quicker and easier maintenance of the pistol consumables.
- ✦ Contact tips accessible and easily changed without disassembling the spray head.
- ✦ Contact tube support block modified to allow increased cooling around the contact tubes.
- ✦ The longer contact tube / tip arrangement gives greater electrical contact area and hence improved coating quality and reliability.
- ✦ Elimination of the ceramic D type nozzle for a peak manufactured air concentrator for optimum coating finish and reduced consumable costs.
- ✦ Profiled drive rollers have 2 grooves and can be reversed for long life operation.
- ✦ All upgrade kits include the support block, terminals, contact tip support tubes and air concentrator for the pistol plus the following size dedicated parts:
- ✦ ARC140-UK-1.6/2.0 includes 2 x 1.6/2.0mm rollers, 2 x 1.6mm contact tips, 2 x 2.0mm contact tips.
- ✦ ARC140-UK-2.3/2.5 includes 2 x 2.3/2.5mm rollers, 2 x 2.3mm contact tips, 2 x 2.5mm contact tips.



NEW DRIVE UNIT



DRIVE UNIT

TECHNICAL OVERVIEW

- Heavy duty (0.55kW) electric inverter drive motor for smooth wire control at higher duty.
- New drive unit with independently adjustable wire tension for easy setup.
- Profiled drive rollers. Rollers have 2 grooves and can be reversed for long life operation. Easy to change over for cleaning/replacement.
- Push/pull mechanism positively drives the wire at the dispenser and also at the pistol via the heavy duty flexible drive, ensuring constant speed at the drive unit and pistol.
- Allows complete use of all the wire (unlike push only systems).
- Maintenance free gearbox.
- Wire centres parallel with wire reel.
- Quantifiable wire tension.
- Twin roller wire drive.
- Single handed wire Ø changeover.
- Same footprint as per 140.
- IP66 rated inverter and IP55 motor.
- Increased motor Size 0.37kW to 0.55kW for more reliable drive.
- No change to MIG dispenser.
- Quick release roller covers for maintenance.
- LED indication on inverter (fault finding / parameters).
- Kit includes the drive motor, drive unit and plate. Wire rollers will be supplied in the size combination to suit (1.6/2.0mm or 2.3/2.5mm).

ENERGISER MODIFICATION

In order to operate the system with the new Drive Unit modifications to the Energiser must be made and these parts are included in the ARC140 Pistol & Drive Unit Upgrade Kit.



ENERGISER



NEW ENERGISER PARTS

Parts included are the Toroidal Aux Transformer 1.5kva which comes fitted with all appropriate terminal wires to connect to the terminals in the Energiser, and all associate fuses, terminals and end stops.

Full and detailed instructions are given with the upgrade kit. It is recommended that a trained and certified electrician or suitably competent person makes the energiser modification. The new toroidal transformer must be fitted to supply the correct power to the new, larger drive motor.

USEFUL INFORMATION

MATERIAL USAGE

The table below shows approximate material throughput and coverage assuming a spray rate of 350A with 2.3mm diameter material.

MATERIAL	THROUGHPUT KG/HR @ 350 Amps	COVERAGE (KG/M ² /100μ)
Metallisation Wire 02E Zinc	36.0	1.22
Metallisation Wire 01E/17E/25E/28E Aluminium & Alloys	8.5	0.35
Metallisation Wire 21E Zinc/Aluminium 85/15	31.0	1.00

Note: The information given above is intended for guidance purpose only. Material usage will depend on a number of factors, these include the quality of the prepared substrate and the shape and size of the job.

TYPICAL PERFORMANCE FIGURES FOR THE ARC140 PISTOL WITH THE ARC140 PISTOL & DRIVE UNIT UPGRADE KIT

Material	Wire Diameter	Throughput (kg/hr @ 350A)	Coverage m ² /kg/100μ
Metallisation Wire 02E Zinc	2.0mm 2.3mm	36.0	0.82
Metallisation Wire 01E/17E/25E/28E Aluminium & Alloys	2.0mm 2.3mm	8.5	2.88
Metallisation Wire 021E Zinc/Aluminium 85/15	2.0mm 2.3mm	31.0	1.00
Metallisation Wire 05E Copper	1.6mm	15(@300A)	0.91
Metallisation Wire 30E,35E,45E, 55E,57E,60E 65E,80E,84E Steels	1.6mm	13.6(@300A)	1.02
Metallisation Wire 75E Nickel Aluminium	1.6mm	16.4(@300A)	1.09
Metallisation Wire 10E Aluminium Bronze	1.6mm	13.6(@300A)	1.37
Metallisation Wire 15E Phosphor Bronze	1.6mm	19(@300A)	0.91
Metallisation Wire 70E/71E Monel	1.6mm	17.2(@300A)	1.02
Metallisation Cored Wire 103T FeCrB	1.6mm	7.2(@180A)	1.18

Throughput is assumed to be independent of wire diameter. Preferred wire diameter shown in bold. All data provided is an approximation and is offered as guidance only as performance can vary depending on application and parameters.

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